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Graduate Program in Healthcare Administration

An Analysis and Validation of the Proposed Standard Metric Set

Created at the TRICARE Management Activity

A Graduate Management Project Submitted to The Residency Committee In

Candidacy for the Degree of Masters in Health Care Administration

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Abstract

The services within the Military Healthcare System have pursued metric set development to measure established goals and perceived information requirements. The Assistant Secretary of Defense for Health Affairs charged the TMA to streamline metric sets within the MHS and create a standard metric set. This study was initiated to validate the proposed standard metric set and solicit input from the field. In addition, the set was compared to performance measurement tools used in healthcare organizations in the private sector. A three-part questionnaire submitted to respondents within the MHS exhibited no significant differences in opinion as to general strategic concepts and the utility of the standard set between services, professions, and levels of command. Of the 47 measures proposed, only six exhibited any significant difference in opinion. The differences were mainly between professions and levels of command. More interestingly were the similarities of opinion among the respondents. Satisfaction measures were highly rated with little variation. A Factor Analysis compared TMA's assigned domains for each measure to the underlying constructs exhibited in the completed questionnaires. The results portrayed opportunities for perverse incentives, unintended behavior changes, and improper categorization. A comparison with the private sector demonstrated issues pertaining to domains and possible metric additions. Also, metric sets at health plans were the most similar to the MHS. A high level of agreement exists among the respondents as to the need to streamline the metric set system and the proposed set's ability to meet the decision-making requirements of the MHS's healthcare leaders.

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An Analysis and Validation of the Executive Level Standard Metric Set

Created at the TRICARE Management Activity

Introduction

The Military Health System (MHS) is saturated with performance measures, also known as metrics, to measure a number of processes and outcomes. Each service has encouraged the creation of metrics to measure what respective executive medical leaders deemed important enough to track. In addition, within each service several layers of command, the regions, Military Treatment Facility (MTFs), and departments, have all created their own set of performance measures. Further more, with the creation of organizations such as the TRICARE Management Activity (TMA), The Defense Medical Oversight Committee (DMOC), and other DoD proponents; additional metrics to measure performance were produced to track processes and health care outcomes. Finally, the magnitude of the system further complicates metric preparation. The MHS is composed of 465 MTFs and over eight million beneficiaries (U.S. GAO, 1999).

During the last five years the MHS has struggled with a growing number of reporting requirements. Thus, TMA devised an executive level standard metric set in an attempt to consolidate critical measurement components under one umbrella. The leadership at TMA (Executive Director, Deputy Executive Director, and the Chief of Staff) and the Acting Assistant Secretary of Defense for Health Affairs have encouraged a review of various metric arrays and the construction of one standard set.

This was accomplished for a number of reasons. First, to insure that the corporation is measuring what is important based on selected criteria. Second, to

minimize the number of reports submitted by the lead agent regions and health care activities. Third, to streamline the number of independent metric sets, at the executive level, into one standard set. Fourth, to maximize data collection efforts by reducing the number of times the mainframe is accessed. Fifth, to reduce the organization's time lag between execution, data collection, data processing, and reporting. Sixth, to develop an organizational framework that recognizes the different levels of management oversight and operational process requirements. Seventh, to enable accurate and timely feedback to the executive level and the operational echelons.

These seven major reasons create the impetus and set the boundaries for the new metric set. TMA set up a working group with representation from the three services to create a proposed standard metric set based on existing measures. After the initial design, the next logical step in the process is to assess the set for applicability in decision making at each MTF, region, and executive staff. Now, that the TMA and Health Affairs (HA) metrics-working group has fashioned this set, the enterprise will validate the set and solicit input from the regional and MTF command teams and the MHS executives. Two methods are used. First, to circulate the set among selected lead agent regions, MTF command teams, and executives to solicit feedback in the form of a questionnaire. This feedback would include recommendations for additional metrics and responses to general metric and strategic implementation statements. Second, to compare the proposed standard set against a number of civilian organizations, to determine the gap between our measures and theirs.

Background

Performance measures are normally implemented to drive a change in behavior. They measure performance and outcomes within an enterprise to meet stated organizational goals. To accomplish this, the organization's strategic plan is defined operationally. Then organizational goals or management objectives are determined within the organization's strategic plan. The selection of performance measures should be mapped back from the operational venue to the strategic plan based on those organizational goals. This enables executive leaders to steer the organization. The link between measures and strategic plan is important to ensure that the organization is accomplishing those goals.

This paper will concentrate on those initiatives at the Department of Defense (DoD) level (includes TMA, OSD-HA, and the DMOC). Discounting the various metric sets/dashboards created by the services, TMA is the proponent for 17 separate sets (Appendix A). Five of these are the primary performance measurement tools for the MHS. A comparison of the five sets is attached (Appendix B). To better understand why the MHS is so fragmented in its effort of develop effective measurement tools and in implementing a strategic plan with defined operational goals, a short description of the MHS organization and the decision making process is presented.

The MHS has a number of key stakeholders. They include: The members of Congress, the Under Secretary of Defense for Personnel and Readiness (USD P&R), the DMOC, the Assistant Secretary of Defense for Health Affairs (ASD HA), the Executive Director of TMA, the Surgeons General of each service (SGs), the beneficiaries, and the

providers/employees. There are others, but for discussion purposes from a policy

perspective, these are the main ones.

In the military, decision making normally follows a published chain of command.

For example, if the boss says to do something, it is done. The present structure in the

MHS though, does not exhibit a simple chain of command. This phenomenon is due in

most part to the department's two missions, readiness and benefits management. Both

these missions, though perceived to be discrete, overlap. The peacetime elements of care

contribute to readiness (wellness) and the active duty personnel that provide care in

MTFs also deploy (RAND Report, 2001). Though both these missions share common

ground, "joint production of readiness and benefits involves a complicated set of trade-

offs and management challenges" at all levels of command/authority (RAND Report).

There are numerous leaders and agencies that impact those healthcare facilities

and regions with business decisions, rules, and requirements. In some cases, the

organizations with responsibility for a program may not have the authority to execute it.

Thus, decision making in the MHS has evolved into a complex dance incorporating

consensus building, collaboration, excessive coordination needs, and negotiation. The

MHS is made up of three services (represented by the respective SGs), TMA (a DoD

agency), and the office of the ASD (HA). Four of the five organizations work for

different entities. This creates serious challenges in designing and implementing viable

metric sets to monitor organizational performance based on management objectives.

The SGs answer to their Chiefs of Staff, who in turn report to their respective

service (Army, Navy, Air Force) Secretaries. The Executive Director of TMA, charged

with the responsibility of insuring the seamless provision of peacetime health care within

the system, reports to the ASD (HA), who reports to the USD (P&R). This organizational

structure does not encourage unity of effort. The greatest potential for conflict arises

between TMA and the SGs. In an attempt to improve the decision-making process, the

DoD created the DMOC. The DMOC functions as the DoD executive level group

responsible for overseeing various issues confronting the MHS. It is composed of the

USD (P&R), selected service secretaries, the service Vice Chiefs of Staff, and the ASD

(HA). This committee was designed to provide oversight and direction to the MHS and

direct those efforts from one overarching group of executive leaders. They were created

in response to the ever-increasing costs of delivering healthcare in the MHS. They were

charged to study options to decrease those costs and recommend organization wide

business efficiencies.

Even with the creation of the DMOC, on 31 August 1999, the challenges in the

MHS lie in decision-making. A stove piped organization that encourages parochialism

among its services will undoubtedly steer itself in at least four different directions (the

Army, Air Force, Navy, and OSD (HA)). The resources, personnel, funding, facilities,

and equipment are under the purview of the services, title 10 of the U.S. Code. The policy

making, operational planning, and in many cases direction to execute lie with the DoD

elements. Therefore, leaders in the Defense Health Plan (DHP), composed of OSD (HA)

and TMA are faced with decision-making in a cooperative environment. All major policy

and operational decisions to include their execution must be collectively decided among

the TMA, the SGs and OSD (HA). Proper buy-in is key to insure the success of a

program implemented in support of our beneficiaries and Congressional mandates. To

accomplish the MHS/DHP mission TMA and the SGs work hand in hand on all

optimization plan programs and initiatives. By creating Integrated Project Teams (with service representation), the TMA is pursuing a successful collective decision making process.

In 1998 and 1999, the TMA developed the optimization plan - a strategic vision for the MHS, both for the direct care and purchased care side. This plan has not permeated throughout the entire MHS, due to its complexity and difficulty in coordinating implementation throughout the system. This is an example of a collective decision that did not fully succeed. It is difficult for this corporation to define a single vision, mission, a set of strategic goals, and adequate performance measures to monitor continuous improvement. Unfortunately, in this case the optimization plan is a critical component to fully integrate the MHS by implementing key models to improve wellness, readiness, resource allocation, enrollment and metrics.

Thus, the system is still faced with an inordinate number of metric sets to measure outcomes and process performance for each agency's (Army, Navy, Air Force) medical service and the DHP. The SGs have their own metric sets that map to their "strategic plan" and vision, while TMA has some to support three requirements: legislative mandates, the optimization plan, and DMOC directives. In an endeavor to consolidate some of these measures at the executive level, the ASD (HA) and the DMOC have challenged TMA and the services to:

1. Identify all current MHS created metric sets.

2. Identify externally directed metric sets.

3. Develop a metric framework that reflects the different levels of management.

4. Make recommendations for implementing an integrated, standardized, and

simplified measurement and management strategy.

To accomplish this task, TMA (Health Program Analysis and Evaluation department)

stood up a Tri-service Metrics Working Group. The goal of this group is to consolidate

all similar metric sets, streamline the process, and create a system similar to that in the

private sector using best practice guidelines. Their first step was to create a proposed

MHS wide standard metric set (Appendix C).

Therefore, this paper concentrates on comparing the opinions of the different

services, professions, and levels of command/authority regarding metric set design,

strategy, and implementation. It also reviews the importance and applicability of the

proposed standard measures, based on a representative sample of respondents. In

addition, the gap analysis between the proposed standard set and selected private sector

health care systems and plans identifies salient differences in performance measurement

areas/domains and specific measures. These comparisons will assist decision-makers and

experts in identifying any differences or agreements in opinion within the MHS and

external to the public sector.

Literature Review

Performance measures are derived from an organization's strategy and selected

business factors that assist an organization's leaders in achieving its vision (Brown,

1996). Metrics or performance measures are a key component that enables an

organization to meet its strategic goals and objectives. According to Kaplan and Norton

(1996), an organization must be able to define corporate objectives and selected measures

to achieve said objectives. " A common phrase today is 'you can't manage what you can't measure'" (Jennings & Staggers, 1999, p. 17). Measures should be relevant, reliable, clear, and tested to insure data availability to compute those measures. (Price Waterhouse, 1995). In addition, with the changing nature of business in today's corporate environment, metrics should also be flexible. Finally, the prevailing literature recommends that metric sets should reflect the organization's vision and values (Schultz & Bowers, 1997).

The fundamental changes to the nation's health care system over the past decade have fueled an expansion in the production of performance measures or performance dashboards (Berkow & Seth, 2000). The greatest driver for the creation of metrics was cost. As the cost of health care delivery rose, the risk of deteriorating fiscal health within health care organizations increased. Therefore, these organizations initially focused on financial measurements.

Berkow and Seth (2000) point out that the fifth most common reason for corporate crisis was inadequate performance measurement. Crisis was defined as "sudden, dramatic drops in both total margin and cash flow..." (Berkow & Seth, p. 6). Based on the outcome many organizations concentrated their efforts on what was perceived to be the symptom, lack of revenue and high expenses. The Health Care Advisory Board has examined over 50 organizations to determine what makes a successful performance measurement system. Their results revolve around four elements, metric balance, metric austerity, graphic display, and action triggers (Berkow & Seth). These elements are central to reducing the possible risk of organizational crisis. Metric austerity reduces the number of performance measures to approximately 30, with little

duplication. Action triggers are the critical thresholds, similar to control measures that allow management to quantify a position and a course of action. Most importantly, metric balance ensures a broad-based approach to performance measurement selection from key areas (operational, customer support, financial, clinical quality, etc.). Metric balance introduces those areas or domains to identify trends and outcomes that will affect the overall health of the organization. The TMA has determined the domains to be quality, cost, access, health outcomes, and readiness.

As quality and access issues reached the same level of scrutiny as cost, metric sets expanded to measure health outcome and satisfaction criteria. In addition to business innovations, these changes were based on external demands by beneficiaries, not-for-profit organizations (Joint Commission on Accreditation of Healthcare Organizations (JCAHO), National Committee for Quality Assurance (NCQA), etc.,) and payers.

JCAHO states that a metric set is an distribution of interrelated measures reflecting process, outcomes, or both that enable a comparison of organizations longitudinally both internally and externally (JCAHO, 1993). Based on the literature, metrics are tools used to track trends, to set targets, to make mid course corrections, to validate that performance is commensurate with strategic goals, and to effect continuous improvement (Birchard, 1995, Kaplan and Norton, 1993, Braun, Koss, and Loeb, 1999, Jennings and Staggers, 1999). Metrics should not only measure performance, but should contain "predictive power" (Birchard, 1995, p. 44). For example, metrics should not be passive, but should capture key business changes, they are leading indicators to help predict future organizational success, and some can determine the value of company

assets to produce wealth in the future (Birchard, 1995). An example is physician satisfaction, which often leads to financial health (Berkow & Seth, 2000).

According to Jennings and Staggers (1999) "businesses translate strategic objectives into a coherent set of performance measures to define and communicate organizational priorities to various constituents such as managers, employees, investors, and customers" (p. 18). To effectively capture and communicate, metrics must be properly defined, act as catalysts to change behavior, and be understood throughout the organization. All measures should be evaluated for reliability and validity (McGlynn, 1998). This is important to ensure that the results are consistent and that they actually measure the required concept. According to Normand, McNeil, Peterson, and Palmer, one can solicit information from a pool of experts to determine importance or appropriateness of performance indicators (1998). In addition, to study the level of understanding within an organization, "it is also useful to draw a distinction between underlying constructs versus observed variables" (Hatcher, 1994). Factor Analysis and other statistical methods can be used to measure understanding and applicability. Therefore, companies migrating from passive fiscal oversight have adopted a number of concepts to create, define, implement, and sustain their dynamic metric sets.

One of the most popular is Kaplan and Norton's Balanced Score Card system. The balanced score card augments financial measures with performance measures in the following venues: 1) a company's relationship with its customers, 2) its key internal process, and 3) its learning and growth (Kaplan & Norton, 1996). Companies in the private sector use the scorecard methodology to assist in defining parameters to insure that metrics are not created in a haphazard manner. The United States Army Medical

Department is considering implementing the balanced scorecard approach. According to

Mr. Ron James, PASBA, "the intent of such an approach is to avoid the creation of

metrics in order to fill a perceived void in information and to try to coordinate the

development of metrics among all segments of the Service..." (Metrics Working Group

minutes, February 28, 2001). "The goal is to develop a consensus on metrics and their

definition within the Army and across the various levels within the chain-of-command"

(Metrics Working Group minutes).

This concept enables companies to maintain a manageable number of metrics

organization wide and at the executive level. There are a number of other models other

than the balanced score card, and what they all have in common is an emphasis on tying

performance measures to management objectives. In addition, once the goals or

management objectives are defined and linked to the strategy, Kaplan and Norton

introduce "strategy maps" to guide a company in "converting its various assets into

desired outcomes" (Kaplan and Norton, 2000, p. 168).

In health care, not only is it important to be able to map the objectives and goals

to strategy and vision; it is critical to measure performance within the tenets of the iron

triangle (Access, Quality, and Cost) and within Donabedian's framework (Structure,

Process, Outcome). The TMA proposed standard set is based on the tenets of the iron

triangle and even uses them as the key performance measurement areas.

A balanced score card approach can be applied to each of the tenets. For example,

one can view quality from at least four different perspectives: the clinical, the customers',

the communities' and the organizations' (Clancy, 1997 and Jennings & Staggers, 1997).

Donabedian's model is a superb framework to use when deciding what one is trying to

measure on the continuum of health care provision. It is important to point out that presently health care leaders are measuring nearly exclusively at the outcome phase. McGlynn (1998) states that outcome measures "more clearly represent the goals of the healthcare system" (p. 474). Previously managers measured quality at the process phase to identify variation in performance. But with the onset of a focus on value: "the best outcomes for the resources invested" (Clancy, 1997, p. 1567) and the impetus for quality improvement, outcomes management has risen to the forefront. Outcomes management is the balancing of cost and quality by improving the process of care as defined by the results of that care (Jennings and Staggers, 1997). Therefore, a key goal in healthcare is to examine patient outcomes to determine efficiency relative to processes and resources used. (Jennings and Staggers). By measuring performance at outcome phase, the manager can resolve what changes need to be made in the structure and process phases to improve quality and reduce cost. In this example, metrics should be catalysts for change (non-passive) and should drive behaviors towards a defined and understood strategic goal.

An important aspect of strategy, vision, values and goals is a common proponent. The literature bespeaks of an organizational vision, a set of values, and one overarching strategic plan with specified goals. In the MHS, four such systems exist, the Air force, Navy, Army, and OSD (HA). One CEO or common proponent does not exist; therefore, each service and the DoD tend to move in differing directions. The perceived and real differences in culture, values, mission, and structure affect performance measurement design and implementation.

There is widespread concern that the number of different metric sets and independent initiatives hinders a concerted effort at unifying goals and objectives. An

example of different initiatives is the Army's drive to implement the balanced score card approach to designing their performance measurement system. The other two services are not pursuing this course, but have concentrated on other tools and on interpreting and implementing the optimization plan to suit their service priorities. The differing missions and readiness priorities also add to the strategic goals and objectives confusion. TMA under the purview of OSD (HA) has tried to combine and create metric sets for use in the field. According to HPA&E at TMA, these efforts are met with varying degrees of enthusiasm. Examples include TRICARE Operational Performance Statement (TOPS), Population Health Operational Tracking and Optimization (PHOTO) System, and the MHS Executive Summary. Though, these significant differences exist, it seems based on a number of presentations and papers available at the services' web sites that the main principle is improved patient care. From the "brick and mortar" perspective there may be agreement as to metric selection and use.

Therefore, it seems appropriate to ask. Will the proposed standard metric set be any different? Once designed and fielded, are the MTFs, regions, and executives going to use these measures to improve performance or will they be discarded.

Research Objective

The research objective of this study is fourfold. First, to conduct comparisons among the different levels of authority (MTF, TRICARE Region, and Executive), services (Army, Navy, Air Force), and profession (physician/dentist, administrator, nurse) regarding metric selection and use to discern significant differences. Second, to request feedback from the field (Regions and MTFs) as to additional metrics, level of

general understanding, and agreement with metric preparation and implementation.

Third, to identify, by level of command, those performance measures which are most and

least applicable for decision-making. Fourth, to determine if a major gap exists between

the proposed standard metric set and executive level private sector metric sets.

Methodology

This study is composed of two parts. The methodology includes information from

1) the private sector to MHS comparison and 2) the internal assessment of the proposed

standard metric set. Under the methodology, the private sector study will be discussed

first followed by the internal MHS metric set assessment study.

<u>Sampling Design</u>

Private Sector

Anthem, Humana, Johns Hopkins (JHH), INOVA, United Healthcare (UHC), the

American Association of Health Plans (AAHP), and the Health Care Advisory Board

(HCAB) performance measurement information was used to compare to the MHS. Dr.

Sears, Executive Director TMA, recommended Anthem and Humana because they are

responsible for providing healthcare to TRICARE beneficiaries in regions two, three,

four, and five. UHC, a health plan similar to TRICARE, was selected due to availability

of data and prior interaction with TMA. OSD HA and TMA use information from UHC

as a benchmark for selected elements of performance. Johns Hopkins and INOVA, two

health care systems consisting of a number of hospitals and a system headquarters, were

also selected to ease comparison with the MTFs and TRICARE regions. The AAHP,

through A.M. Best Company, annually compiles operational and financial metrics

representing results within the HMO industry. Finally, the Health Care Advisory Board, in their CEO Dashboards publication, presented a list of health plan and health care system performance measures. These lists were prepared from a review of over 50 health care organizations and represent the most "critical metrics surfaced by the literature" (Berkow & Seth, 2000). These two lists were also selected to compare against the MHS proposed set, since they represents the results of a comprehensive study performed by the HCAB and include both health systems and plans.

MHS

The sampling process for the MHS was more complex and consisted of various steps. First, the population had to be identified. To complete the study, it was determined that respondents from the three services, the TRICARE regions, and the MHS executive leadership were required. In addition, since the study required a sampling of personnel from the three main levels of "command", the relevant population consisted of senior officials at the MTFs, senior officials at the TRICARE regions, and the executive leadership. Thus, the population for selection was identified as the command teams at the Army, Navy, and Air Force MTFs (tri-service), the TRICARE regions (which are tri-service), and the MHS executive leadership (tri-service also).

The second step was to size the sample correctly by level of command. For the executive level, 100% of the population was selected (N=9). The executive level was defined as the three services' Surgeons General, the Deputy Surgeons General, the Deputy Executive Director of TMA, the Executive Director of TMA, and the Acting Assistant Secretary of Defense for Health Affairs. Since the population was small all of them were selected to participate. Since the TRICARE regions and MTFs were more

numerous, 66% (2/3) of the total population was selected as the appropriate sample size. There was no hard scientific method used for this decision, it was based primarily on time and administrative considerations, and a desire to minimize intrusion into daily operations. As the literature (Cooper & Schindler, 1998) states, there are no set formulas or processes to determine the right sample size. Therefore, the researcher was comfortable with a selection representing two-thirds of the population. The command teams for both the regions and the MTFs were tapped. This amounted to three officers per region and four officers per MTF (N=231). The total N with executive level, regions, and MTFs amounted to 240 candidates.

The third step was to decide what type of MTF was appropriate and to select the sample. Since these measures include outpatient and inpatient areas, hospitals with inpatient capability were chosen to participate. To select the MTFs, a stratified random sampling technique incorporating population proportion parameters was used. Thus, the sampling frame became an MHS MTF (hospitals) list provided by the Defense Medical Facilities Office (Appendix D). The list is made up of 77 hospitals: 28 Army, 25 Navy and 24 Air force. To ensure equitable sample selection by service, the proportion of each service to the total was calculated. That proportion was used to calculate the number of hospitals from each service for the research sample. For example: 28 Army hospitals equate to 36% of the total, 77 hospitals. The total sample size (all services) equals 51 hospitals, which is 2/3 of 77 hospitals. Therefore, the Army sample size equates to 18 hospitals, which is 36% of 51. The command teams at the MTFs are composed of the Commander, the Deputy Commander for Nursing, the Deputy Commander for Clinical

Services, and the Deputy Commander for Administration. Two hundred and four questionnaires were mailed to the MTFs.

The fourth step was to select the number of regions. Thirteen TRICARE regions exist in the MHS. Two-thirds of 13 equates to nine. Nine TRICARE regions were selected for the study. The top officers at these regions include the Director, the Deputy, and the Operations Director. Twenty-seven questionnaires were submitted to the regions.

The final step was the selection process. A slip of paper was prepared for each candidate in the population (MTFs and Regions). The Defense Medical Information System (DMIS) identification number represented each MTF. The numbers one through 13 corresponded to the TRICARE regions. The MTFs were stratified by service into three separate envelopes and the TRICARE regions were all placed into one envelope. Two personnel picked out the required number of slips from each envelope. An observer was also present. The slips were returned after each pick to ensure equal chance of selection (Cooper & Schindler, 1998). The methods used in the sampling process enhanced the chance that there was equal probability for selection within the population. See appendix E for selected sample of MTFs and Regions.

Research Design

The general design was a formal research study. It is descriptive in nature, with an ex post facto design (non-experimental), utilizing a communications tool (only MHS) to collect the data. The comparisons between the private sector and the MHS were predominately qualitative. The questionnaire analysis within the MHS is quantitative.

Private Sector

To determine differences between the private sector and the MHS, the researcher took the raw data provided by these organizations and organized them into domains or performance measurement areas. This allowed for comparisons at the domain level and facilitated specific measurement identification. The key to the design was to enable a step-wise approach to compare executive level metrics among the selected samples and the MHS. A gap analysis was conducted to identify gaps between performance areas and domains. This analysis also identified similarities in performance measures. This method or design enabled the researcher to compare systems, plans, and hospitals to the MHS. These organizations were asked to provide a list of their executive level metrics, the strategic goals they support, the key components, and if possible their effectiveness at driving behavior.

MHS

To tap into the MHS, a three-part questionnaire was sent to each selected MTF and region. A two-part questionnaire was submitted to the executive level officers. The questionnaire was addressed to the MTF command teams (the Commander, the Deputy Commander for Clinical Services, the Deputy Commander for Nursing Services, and the Deputy Commander for Administration). At the regional level it went to the Director, the Deputy Director, and the Director for Operations.

Validity and Reliability.

A panel of members at the TMA determined content validity (how well the questions cover the topic). They reviewed both the general metric questions (part I) and the performance measure assessment section (part II). They ensured questions were

worded simply, relaying one concept or idea, avoiding jargon, slang and use of negatives, and portraying proper metric identification (Spector, 1992). The researcher coordinated with the TMA metrics point of contact, LTC Dorothy Smith, to formalize performance measurement inclusion and designation within the proposed standard metric set.

There was differing opinion at Health Affairs and TMA in conducting a questionnaire item analysis. The purpose of an item analysis "is to find those items that form an internally consistent scale and eliminate those items that do not." (Spector, 1992). Internal consistency is defined as "the extent to which the individual items that constitute a test correlate with one another or with the test total" (Hatcher, 1994). According to Spector, the lack of internal consistency makes a summated rating scale instrument somewhat questionable. Cronbach's Alpha is one of the most utilized measures of internal consistency in the social sciences (Hatcher, 1994).

Expert personnel at TMA reviewed the questionnaire to assess if a Cronbach's Alpha test should be administered to measure internal consistency. Only part I, made up of 13 questions would be eligible for testing. Part II, since it only consisted of one question and a list of 47 performance measures was not. Based on the process involved in conducting the item analysis, the lack of a representative sample to conduct it prior to mailing the questionnaire, and time constraints, TMA recommended forgoing a Cronbach's A. In addition, Spector (1992) states "intercorrelation can be raised by increasing the number of items or by raising their intercorrelations." In an effort to make the questionnaires simple and time efficient, the researcher kept the number of items to a minimum (13 each). Time constraints would also prevent the researcher from submitting various iterations of the questionnaire to improve item intercorrelation. The researcher

forwarded the information to his reader for approval to omit a test for internal consistency for part I of the questionnaire. Approval was granted.

On the other hand, Dr. Bob Opsut, Health Budget and Financial Policy, Health Affairs, recommended the researcher conduct a test to measure consistency among the scores of the observed variables. Though all the desired steps (Spector, 1992) to conduct a comprehensive reliability test were not taken, a test for internal consistency would show evidence of intercorrelation. Dr. Opsut said the test would provide credibility to the summated rating scale instrument. Readers concerned with psychometric properties would want empirical evidence to verify questionnaire reliability (Hatcher, 1994). Therefore, scale reliability (internal consistency) was assessed using coefficient alpha. The test was performed in SPSS using the reliability analysis, scale alpha. Part I of the questionnaire (13 questions) was the only section subject to testing.

Table 1. Mean, Standard Deviation, and Coefficient Alpha Reliability Results

Variables	Mean	Standard Deviation	Coefficient Alpha	Std Item Alpha
Items 1 - 13	5.2	0.6	.6933	.7062

A reliability coefficient result of .7 or greater signifies an acceptable measure of internal consistency in a summated rating scale instrument (Nunnaly, 1978). Though modifications to increase item intercorrelations were not possible, the results were encouraging. Further refinement would increase internal consistency; yet, for this study, based on time and personnel constraints, the initial questionnaire instrument was used to complete the analyses.

Crafting the Questionnaires

One questionnaire (MTFs and Regions) was prepared in three parts. Part I contained 13 statements concentrating on general aspects of strategic planning and metric set preparation. Part II contained one question made up of 47 components, the performance measures in the proposed standard set. To prevent any perception of grouping or ranking, the performance measures were displayed in alphabetical order. Part III contained one question requesting input from the respondents. See appendix H. The second questionnaire, for the executive members of the MHS, did not include part I described above, only parts II and III. See appendix I. Each questionnaire included a section dedicated to demographic data. The respondents were asked to identify their service, profession, rank, and job title.

Data Collection

Private Sector

The researcher called the civilian healthcare and research organizations to request performance measurement information. All civilian organizations selected participated. The quality and quantity of the information varied noticeably. Some organizations sent many pages of information, while others just one page. Numerous phone calls were made to acquire the most useful and pertinent data. Data was provided in various forms and the researcher signed four non-disclosure statements (Anthem, Humana, INOVA, and JHH). None of the information provided was in electronic format. Face to face meetings were arranged at both JHH and INOVA. The researcher was careful not to bias data collection from JHH or INOVA based on meetings or their convenient location. The meetings were

set up to discuss basic strategic plan formulation, structure, implementation, and

performance measurement creation.

MHS

The three-part questionnaire was mailed to all MTF and TRICARE region

respondents (Appendix H). Both parts I and II contained a number of Likert scale type

questions, thirteen questions on the first part and one, with 47 elements, on the second

part. Under part II, the respondents rated each performance measure (47 total) as to its

applicability in decision-making at their level of command. Each question was composed

of seven options from fully disagree to fully agree. Seven was selected over five to fully

identify those just noticeable differences (Dr. Kenn Finstuen, class lecture, 1999). A two-

part questionnaire, omitting part I, was presented with a three to five minute brief to the

executive leadership (Appendix I). The briefing was prepared to reflect the Questionnaire

Information Sheet.

<u>Mailing Process</u>

Prior to mailing the questionnaires, the researcher requested up to date addresses

for selected facilities from the service Surgeons' General offices. Those offices verified

the existence of the respective facilities and provided the latest mailing addresses. Names

of commanders or command teams were not requested due to confidentiality concerns.

One envelope per facility (addressed to "Commander") was mailed containing

four questionnaires (MTFs), three questionnaires (regions), a cover letter addressed to the

commander or director (Appendix F), a questionnaire information sheet (Appendix G),

and addressed return envelopes for each questionnaire. The questionnaire information

paper included background information, objectives of the study, methods, including

confidential and voluntary participation, and utility of the study. The envelopes were mailed on 04 January 2001 with a completion suspense date of 26 January 2001. The researcher set 06 February 2001 as the last date to receive information. This date was set to allow for delay in the mailing system. Based on time and cost constraints, reminder cards were not mailed out. Self-addressed business style (official mail) return envelopes were included to increase the likelihood of response (Mangione, 1995)

The researcher had two major concerns with the mailing process. The first was the decision to omit names on the envelopes. By excluding names, the mailing becomes impersonable. This might decrease response rates, and could increase the likelihood of misdirected questionnaires.

The second was the lack of postage on the return envelopes. According to Mangione (1995), "placing a postage stamp on a return envelope puts subtle pressure on the respondent…" Administratively, the government post office at TMA was not able to meter the envelopes. The date on the envelope must reflect the date mailed. In addition, they were unable to procure stamps; therefore, the expense would be personal. The postal personnel recommended sending the envelopes without postage. Most military organizations have metered postage capability. Of the 120 questionnaires returned to TMA, 118 were officially metered and sent through government channels.

Operational Definitions of Variables

MHS

The dependent variables included the 47 proposed performance measures in the preliminary standard metric set (part II of the questionnaire) and each of the 13 questions on part I of the questionnaire. These variables were coded on a Likert scale, measured

from one to seven. The independent variables included type of service (Army, Navy, Air Force), profession (physician/dentist, nurse, administrator), and level of command (Executive, Region, MTF). The Army, Navy, Air Force were grouped under the variable service and coded 1- Army, 2- Navy, 3- Air Force. The same method of coding was used for the other two groups. See appendix J for a summary of operational definitions.

Null Hypotheses

Private Sector

There is no difference between the domains and metrics within the MHS preliminary standard metric set and selected private sector organizations.

MHS

1. There is no difference between services as to metric selection and implementation of a standard set.

2. There is no difference between level of command as to metric selection and implementation of a standard set.

3. There is no difference between profession as to metric selection and implementation of a standard set.

Data Analysis

Private Sector

A spreadsheet was prepared to conduct the comparison between the MHS and the private sector. All the data was manually separated, categorized, and then compiled using Excel Microsoft as the application. A qualitative gap analysis with basic descriptive statistical methods (frequencies, means) was used to discern similarities and differences among the organizations. In addition, to determine magnitude of results,

proportions/ratios were calculated and variances between the private sector and the MHS were analyzed. Finally, similar performance measures between each civilian organization and the MHS were identified, presented, and calculated as a percent of the organizations' total. In the prevailing literature there are no set procedures or template for conducting gap analysis. A literature review of gap analysis revealed different philosophies of what it is and possible tools to accomplish one. The most common application of this method in the reviewed literature was in the customer service arena and human service education (Natarajan, 1999, Dyck, 1996, Balm, 1996, Headly & Choi, 1992). The basic concept is to identify differences (gaps) between the present state and an end state (Gap Analysis, 2000).

In this study the present state was defined as the MHS preliminary standard set and the end states were the different sets used by private sector healthcare organizations to include the HCAB and the AAHP. The variety of measures and processes used in the private sector lent itself to a qualitative gap analysis. The goal was to identify general differences and similarities in domains and selected measures. The value to this portion of the study was to identify the methods and metrics used in the private sector. If the gaps are not excessively wide, benchmarking and possible adoption of certain measures may add value to MHS operations.

MHS

The results (data) from the questionnaires were entered into the Statistical Package for the Social Sciences software program version 10.0 (SPSS). A number of questionnaires contained incomplete elements. The researcher considered filling those gaps with the respective means. This though, because the study was comparative and

based on analysis of variance, did not make sense. To fill in the blanks with the mean would dilute the variance, making the data tighter around the mean. This method would create an artificial tightness of variance. In addition, according to Brenda Cox, at Mathematica Policy Research in Washington DC, to fill in holes the missing data should be ≥ to 10% of the total results (Brenda Cox, personal communication, February 2001). This study's questionnaire only had five items out of 60 with missing results equal to or exceeding 10%. Furthermore, LTC Tom Williams, Health Program Analysis and Evaluation, said that filling gaps for a comparison of means/univariate analysis of variance study would artificially reduce the variance and modify the results (Tom Williams, personal communication, February 2001).

For part I and II, descriptive statistics, univariate analysis of variance, and Tukey's Honestly Significant Difference test were used to analyze the results. Means, standard deviations, and frequency distributions (ungrouped and graphed – histogram) were used to assist in determining distributions of item scores. Univariate analysis of variance is the most elegant statistical method for this study. According to Kirk (1999), analysis of variance (ANOVA) is the appropriate procedure to answer questions regarding differences among sets of population means. If, after computing the ANOVA, there are significant differences, the researcher "may want to draw some further conclusions" (Dowdy & Wearden, 1991). A Tukey's Honestly Significant Difference (HSD) test is one of the most employed posteriori test to establish which group means are different (Dowdy & Wearden, 1991, Kirk, 1999). The Tukey's HSD test was applied to those population means that were statistically significantly different. Finally, exploratory factor analysis was conducted on part II to identify any underlying constructs among the

47 performance measures. The items were rotated orthogonally using the varimax

application to simplify the structure and maximize the factor variances (Pedhazur &

Schmelkin, 1991). Rotating factors allows for each item to have a consequential loading

on only one factor. This process enables the researcher to ascertain if the selected

domains (access, quality, cost, health outcomes, and readiness) are actually indicative of

natural agreement among the respondents.

The study is comparative; therefore, the tests conducted were appropriate to

discern any significant differences in opinion within and between services, professions,

or levels of command in relation to applicability of the proposed standard metric set. To

conduct the analysis of additional performance measures not included in the proposed set

(part III) descriptive statistics were used to determine the top five choices to incorporate

in future renditions. Tables and graphs were prepared to present the results in operational

and graphic form.

Response Rates

Response rates were broken out by level of command and the MHS total. Of 240

questionnaires, 120 were returned by 06 February 2001. This equates to a 50% return

rate. Of the 120 questionnaires received at TMA, eight were discarded due to incomplete

or missing demographic data. The analysis can only be accomplished with complete

demographic (profession, service, facility type, rank) data. That left the researcher with

112 questionnaires to analyze. The following table reveals the number of questionnaires

sent by category and portrays the return and completion rates.

Table 2. Response and Complete Questionnaire Rates

Level of Command	Total Sent	Returned	Rate	Completed	Rate
MTF	204	96	47%	90	44%
Region	27	19	70%	17	63%
Executive Officers	09	05	56%	05	56%
Total MHS	240	120	50%	112	47%

The distribution of respondents within the independent variables (service, profession, level of command/authority) is presented in table 3.

Table 3. Independent Variables

Components	Frequency	Percent of Total (112)
Army	34	30.4
Navy	31	27.7
Air Force	47	42.0
Physician	40	35.7
Nurse	29	25.9
Administrator	43	38.4
MTF	90	80.4
Region	17	15.2
Executive	05	4.5

Ethical Considerations

Ethical matters concerning the safeguarding of participants, organizations, subject matter, and the researcher were covered. Participation was voluntary. In the request to participate, candidates were fully informed of confidentiality safeguards. During the

analyses process, all responses were held in strictest confidence and the results were

shared in anonymity and in general terms. All responses were coded and aggregated by

variable (service, profession, and level of command); thus no individual responses could

be associated with specific units or persons. In addition, the researcher was cognizant of

his responsibilities not to exceed the scope of the study and insure the highest level of

accuracy. Except for the Assistant Secretary of Defense for Health Affairs and the

Executive Director of TMA, only active duty service members participated in this study.

The Executive Director of TMA granted the researcher permission to conduct this study,

as a tool to assess opinions from the field and to enhance the GMP.

Limitations of the Study

This study has a number of limitations. The first is the selection of civilian

organizations. The researcher selected one nationwide managed care plan (UHC) that

closely resembles TRICARE. The other two organizations, Johns Hopkins and INOVA

are regional organizations with excellent reputations. The Executive Director of TMA

requested that the researcher review data from Johns Hopkins. U.S. News and World

Report rates Johns Hopkins as the best hospital in the United States. The Executive

Director, TMA wanted to see what is measured at the executive level within Johns

Hopkins. Humana and Anthem were also selected at the request of the Executive

Director, since the government does business with them. The research organizations

HCAB and AAHP were selected due to their significant studies in this area of

management and their available data. An organization not selected, though considered,

was Kaiser Permanente. It is the most similar to us, according to LTC Dott Smith,

HPA&E at TMA, but based on time constraints the data was not available.

A second limitation is the selection of regions and MTFs. Although, the researcher insured random sampling, there is an opportunity to select non-representative MTFs or regions that would decrease the ability to generalize the findings. A third limitation concerns the knowledge base of those selected command teams. Will they be familiar enough with the concepts to answer the questions from a knowledgeable position? A fourth limitation is with the ability, experience, and knowledge of the researcher. For example, did the researcher construct a questionnaire that properly identifies and covers all the pertinent issues? In this case, the questionnaire validation exercise by a panel of experts at TMA mitigates some of the error. But the limitation remains, due to an inexperienced researcher.

A fifth limitation is the questionnaire return rate and accuracy. With all the planning and operational demands faced by the command teams, did they conscientiously fill out and return the questionnaire. Without making it an official TMA/SG document, it will be up to the respondent to take this study seriously enough to expend the required effort. Finally, the last limitation also involves the command teams. How did they view the exercise? Did they put a spin on their replies or did they answer as honestly as possible? The confidentiality/ethical measures implemented to protect the respondents hopefully ameliorated this concern.

Findings and Discussion

The findings and discussion portion of the paper are portrayed together in five parts. The five parts are the general metric statements (part I, questionnaire), the standard metric set (part II, questionnaire), the additional performance measures and domains

recommended by the respondents, the identification and analysis of underlying

constructs, and the comparison with the private sector.

Part One of Questionnaire

The results of the first part of the questionnaire, consisting of general metric and

strategic planning statements, exhibited one significant difference out of 13 statements.

On one statement, the respondents disagreed as to its meaning or utility. The difference

was significant when taking into account the effects of profession and level of command.

Those two independent variables combined display a statistical significant F value at the

.017 confidence level (Appendix K).

Table 4. Measures with a significant F value at the .05 level.

Measures	Source	F value	sig.
Metric sets are currently tied (mapped) back to management objectives	Level of Command* Profession	4.288	.017

A Tukey's HSD test discerned the significant difference to be between the Air

Force and the Army (Appendix L). On the surface, this does not fully support the finding

that profession and level of command were responsible for the effect. Unfortunately

though, the post hoc test was not complete due to lack of data. Level of

command/authority was not included because there were fewer than three groups. In

addition, there was only one profession present in the Navy at the regional level. These

realities confounded the results, making them suspect.

This lack of variance skewed the results of the Tukey's test. Considering the

inability to compute a post hoc test properly, a comparison of means was used. The

difference between the means of the two levels (MTF and Region) was .89 (4.42 – 3.53).

This difference was the second highest when compared with the other items. This may be the driver behind the results of the Univariate ANOVA. Regardless of the descriptive statistical results (.89), estimating the effects of interaction between the levels of authority was not possible. Thus, the researcher can only conclude that a significant difference exists but cannot statistically display the exact origin of the difference.

The means and standard deviations are presented in the following table. The table is organized from highest mean score to lowest mean score based on the Likert scale responses. The means range from 6.03 to 4.29 and the standard deviations range from 1.09 to 1.78 on a seven-point scale. Higher item scores denote that the respondents agreed that those items were more applicable for decision-making at their organization than they did with the lower scored items.

Table 5. Statements, Means, and Standard Deviations for Part I, Questionnaire

Statements	Mean	SD
A standardized methodology to calculate performance measures should be instituted throughout the MHS	6.03	1.09
Too many metric sets exist in the MHS	6.01	1.29
Services should review metric sets against management objectives	6.00	1.50
Performance measures help organizations achieve strategic goals	5.56	1.25
A MHS standard metric set should be used as a template for other service, regional, or MTF sets	5.47	1.53
I am aware of corporate management objectives reflected in the MHS strategic plan	5.42	1.47
I am aware of service medical specific strategic goals	5.27	1.77
Standard metric set should be implemented in the MHS	5.21	1.45

Table Continues

Statements	Mean	SD
The standard metric set supports enterprise wide strategic goals	4.74	1.10
The standard metric set in part II represents a balanced approach to metric selection.	4.70	1.29
Standard metric set supports service specific strategic goals	4.65	1.23
Metric sets are best prepared under a single proponent	4.63	1.78
*Metric sets are currently tied (mapped) back to management objectives**	*4.29*	*1.34*

Significant difference at the P = .05 level.

The findings on this first part denote that respondents are likely to agree on most of the statements. The interesting outcome is not so much the disagreement exhibited in whether sets are currently mapped back to management objectives, but the agreement and relatively high scores on certain items. Not only did some of these items exhibit a high score; the highest scored had the lowest standard deviation, denoting little disagreement among respondents.

Of the remaining 12 items, three are at a score of 6.00 or higher. The respondents, regardless of service, profession, or level of authority/command believe that those items should be of high priority in metric set creation and implementation. The highest rated item, which also exhibited the lowest standard deviation, was a desire to institute a standardized methodology to calculate performance measures. Of note also is the low score and high disagreement (standard deviation) for the item: metric sets are best prepared under a single proponent. This may lead one to conclude that the respondents are interested in maintaining their right to create measures within their organizations. In

addition, the proposed standard metric set was rated low in its ability to support or tie back to service specific goals. It was also rated rather poorly in supporting MHS wide goals.

The respondents rated both creating a standard set to use as a template and implementing a standard set as 5.47 and 5.21 with standard deviations of 1.53 and 1.45 respectively. They were ranked fifth (template) and eighth (implement) out of 13 on the list above. The standard deviations for the two items are above the mean standard deviation, 1.39. This represents a higher level of disagreement among the respondents for standard set implementation and use as a template than the average level of disagreement for all the items reflected in part I of the questionnaire.

The value of this part of the questionnaire turned out to be the overall agreement among the respondents with the various statements regarding metric set design and implementation. In addition, the respondents identified certain items of importance that are central to future metric set implementation. These items actually validated some of the Acting Assistant Secretary of Defense's and the DMOC's guidance to TMA. Specifically, to identify all current MHS created metric sets and streamline, to identify externally directed sets, to develop a metric framework, and to standardize calculation methodologies. The general portion of the questionnaire has confirmed the need for a comprehensive review and analysis of the enterprise's performance measurement process. The paper proceeds to reviewing differences and similarities in opinion among the respondents regarding the proposed standard metric set, part II of the questionnaire.

Part Two of Questionnaire

Though the methodology used to analyze the data in part II is similar to part I, the numbers of data elements makes it much more complex. Of the 47 performance measures on the proposed metric set, six measures revealed a significant F value at the p = .05 confidence level (Appendices M through R).

Table 6. Measures with a significant F value at the .05 level.

Measures	Source	F value	sig.
% AD members with temporary medical profiles (Readiness)	Service*Profession	2.786	.031
Relative weighted product per 1000 enrollees (Cost)	Profession	5.551	.006
Managed Care Support Contractor phones , % of all lines busy (Access)	Service*LvlCmd	2.492	.049
Malpractice claims filed per 100 physicians (Quality)	Service*Profession	2.943	.024
Dental Wellness (% class 1) (Readiness)	Serv*LvlCmd*Prof	6.535	.012
	Service*Profession	2.909	.026
Dental Readiness (% class 1 &2) (Readiness)	Serv*LvlCmd*Prof	5.169	.025
	Service*Profession	2.733	.034

Three of these measures fall under the readiness domain, one under quality, one under access, and one under cost. It is interesting to note that of the four measures in the readiness performance measurement area, three show a significant F value, 75% of the total. This result may indicate that the respondents do not have agreement as to common measures of military medical readiness. The researcher initially observed that in many meetings to discuss applicability of measures, the greatest disagreement among services and attendees tended to center around what readiness measures to include. The different

service missions and cultures relating to wartime activities shaped the results within the

readiness performance measurement area.

To discriminate just exactly where those differences lie, the following tables

break down the three groups (service, profession, and level of command) by performance

measure. The tables are based on the Tukey's HSD output (Appendices S through X).

Table 7. Profiles*

Service	Profession	Level of Command
N/A	N/A	N/A

*Due to gaps in within groups, significant differences were not identified in the Tukey's HSD test.

Table 8. Relative Weighted Products per Enrollee

Service	Profession	Level of Command
N/A	Nurse and Admin Sig. .009	N/A

Table 9. MCSC Phones % busy*

Service	Profession	Level of Command
N/A	N/A	N/A

*Due to gaps in within groups and F value at the .049 significance level, significant differences were not identified in the Tukey's HSD test.

Table 10. Malpractice Claims Filed

Service	Profession	Level of Command
N/A	Nurse and Admin Sig. .004	N/A

Table 11. Dental Wellness

Service	Profession	Level of Command
N/A	Nurse and Admin Sig. .006	MTF and Region Sig. 013

Table 12. Dental Readiness

Service	Profession	Level of Command
Army and Air Force Sig. .025	Physicians and Admin Sig. .038	MTF and Region Sig. .001
		Region and Exec Ldrs Sig. .040

Unfortunately, it is obvious that in two measures post hoc test results are not significant. After deliberation with Dr. Mangelsdorff, Baylor University, it was determined that the results could be skewed due to missing types of professions. This is similar to the phenomena faced with the Tukey's HSD results in part I, where the researcher can identify a significant effect among the variables, but cannot pin point the source of such effect.

For the two items without significant results on the Tukey's HSD, the researcher analyzed the descriptive statistical results where the F value was significant. The means for profiles illustrate that the Air Force felt it was most applicable (4.63) and the Navy the least (4.00). Reviewing professions, the nurses considered profiles most applicable (4.89) and the administrators the least applicable (4.17) for decision-making purposes and inclusion in the standard set. That is an interesting outcome, since one would assume that administrators are more sensitive to temporary profiles since it affects readiness and deployability of the force. For the second item, the means for Managed Care Support

Contractor (MCSC) phone lines % busy, the level of command variable indicated the greatest standard deviation. The TRICARE region respondents considered it most applicable (5.09) and the executive level least applicable (3.50) for inclusion into the proposed standard set. This makes sense, since at the regional level; the leadership would be interested in contractor response to the served beneficiary population. This score indicates that this measure loses some of its value at the executive level.

The prominent results as noted in Tukey's HSD are in the dental wellness and readiness measures. Major disagreements as to the utility of these measures in the decision making process was evident among professions and levels of command. The nurses ranked dental wellness 5.34 and the administrators 4.56. This may indicate that nurses are more attune to wellness measures. The hospital command teams considered this measure important to track (5.68), while the regions and the executive leaders rated it at 5.30 and 4.56 respectively. This result may point to a focus on wellness at the point of medical care delivery.

The Army, Navy and Air Force rated dental readiness at 5.09, 5.33, and 5.89 respectively. It is interesting to note that based on a briefing presented at DoD, the number of military members deployed is greatest in the Air Force, then the Navy, and finally the Army. As far as profession is concerned, the physicians considered this most applicable at 5.80, the nurses next at 5.71, and the administrators at 5.07. The executive level of command rated this variable at 6.00, the MTFs at 5.70, while the TRICARE Region command team rated it at 4.35. This difference pinpoints the wide gap between the focus at the region (health plan) and the executive level in the area of readiness. At the TRICARE region, the focus is on the delivery and management of the peacetime

healthcare product. Therefore, readiness concerns are not at the forefront. Readiness becomes more important at both the MTF level and the executive level. The MTFs are the focal point for care and have assigned personnel targeted to support deploying units (platforms). At the executive level those leaders are concerned with all aspects of healthcare, not specifically the provisions of peacetime care.

Though the differences are interesting, what is more remarkable is the similarity among all the respondents. Of the 47 performance measures under review, 41 did not reveal any significant difference when rated for applicability in the decision-making process among services, levels of command/authority, and profession. This was surprising, because it affirms that the working group has devised a comprehensive instrument for possible use as a performance measurement template. In part I of the questionnaire, the respondents rated the statement regarding preparation of metric sets by a single proponent next to last. Yet, under a general assessment based on levels of disagreement between respondents, it is evident that a single proponent can adequately prepare a comprehensive tool for use in the field and at the executive level. This disagreement in results, between part I and part II, point to a concern with loss of autonomy. Though this proposed set may adequately represent the decision-making needs of the respondents, they do not want to lose their right to create additional measures to track organizational priorities not reflected on the standard set. Respondent agreement, with few exceptions, denotes that they concur with performance measurement selection for a MHS wide proposed standard set.

More surprisingly though, is a ranking based on the means of the performance measures. The following table lists all rated 47 measures from highest to lowest. The measures displaying significant differences in opinion are italicized.

Table 13. Performance Measures in Order of Importance

Performance Measure	Means	Standard Deviations
Satisfaction with Quality of Health Care	6.16	1.11
% Beneficiary Satisfied with Customer Service	6.15	1.07
Patient Satisfaction with Access	6.13	1.04
Satisfaction with Access to Healthcare	6.09	1.11
Overall Satisfaction with Clinic Visit	6.07	1.04
Patient Satisfaction with Waiting Times	5.94	1.16
% Eligible Enrolled to MTF	5.91	1.25
Cost per Enrollee	5.89	1.15
Ease of Making Appointment by Phone	5.89	1.23
Emergency Room Visits per 1000 Enrollees	5.87	1.33
Preventive Care Measures (ex. Pap smears)	5.81	1.18
Pharmacy Cost per Member per Month	5.78	1.35
Satisfaction with Access to Specialist	5.70	1.19
Direct Care Market Share - Outpatient workload	5.69	1.40
Wait Time for Appointment (TRICARE Stds)	5.62	1.34
% of Enrollees Seen by their PCM	5.58	1.36
Wait Time at Appointment (30 minute standard)	5.54	1.15
Visits per Provider per Day	5.53	1.24
Cost per Visit Weighted	5.52	1.39
Dental Readiness (% Class 1 and 2)*	5.50	1.46
% Providers Medical Readiness Trnd & Certified	5.41	1.59
Cost per Bed day	5.39	1.38
Preventable Admission Rates for Prime Enrollees	5.35	1.45

75%

Table Continues

Performance Measures	Means	Standard Deviations
Cost per RWP (Relative Weighted Product)	5.34	1.47
Claims Processed within 30 Days	5.32	1.43
Visits per 1000 Weighted	5.15	1.34
*Dental Wellness (% Class1)**	5.12	1.59
Direct Care Market Share - Inpatient workload	5.08	1.66
MCSC % of Calls Answered within 2 minutes	5.05	1.41
Laboratory Costs per Member/Month	5.02	1.59
Radiology Costs per Member/Month	4.96	1.62
SADR Completion Rate	4.93	1.53
SIDR Completion Rate	4.91	1.56
Capital Costs per Member per Month	4.88	1.74
Bed days per 1000 Enrollees	4.86	1.68
*MCSC Phones --- % of all lines busy**	4.83	1.50
Dispositions per 1000 Enrollees	4.78	1.53
Nurse FTE per Weighted Bed Day	4.74	1.57
Beneficiary Grievances/1000 Enrollees	4.70	1.67
*RWPs per 1000 enrollees**	4.68	1.59
Health Status (self reported on SF 12—mean)	4.64	1.49
MEPRS Completion Rate	4.41	1.84
*% of AD Members with Temp Medical Profiles**	4.38	1.74
Beneficiary Appeals per 1000 Claims	4.21	1.64
JCAHO Grid Scores	4.19	1.76
Malpractice Claims Paid per 100 Physicians	4.09	1.78
*Malpractice Claims Filed per 100 Physicians**	4.05	1.79

50% (bracket spanning from Claims Processed within 30 Days)

25% (bracket spanning from MCSC Phones --- % of all lines busy)

*Significant at the .05 level.

In addition to the table, frequencies for each measure, per rating (1 through 7), are displayed in graphical form (histograms) in appendix Y (Y1 through Y47).

A couple observations are instantly evident. The top six measures are satisfaction based. Three are from the quality domain and three from the access domain. Of the top ten measures only one measure is concerned with cost, cost per enrollee. Of the top 20 measures with a mean of 5.50 or higher, four are cost, one is readiness, one is health outcome, four are quality, and nine are access measures. If one decomposes the domains and reviews these measures from a customer-oriented perspective, 12 of the top 20 measures are specifically related to customer satisfaction.

These 12 patient oriented measures also exhibit a low average standard deviation, 1.16. As compared to the other measures, not specifically relating to customer satisfaction, this 1.16 standard deviation is the lowest. This represents responses that are tight around the mean, with evident agreement among the respondents in rating customer satisfaction measures at the top. Seventy-five percent of the respondents rated the top five measures as a 6.00 or higher. These measures are all directly related to customer satisfaction.

In the top 25%, a total of 12 measures, one health outcome measure is present. This preventive care measure was rated number ninth. The other health care outcome measure, self-reported health status, was rated 41. This result leads one to believe that self-reported measures are not as reliable as clinically derived health outcome tests. In this vein, the respondents do not consider this measure as critical to decision making as others based on its subjective nature.

The mean score of all the means is 5.25 (grand mean). Twenty-five measures are distributed above the grand mean and 22 below. Assuming a normal distribution, 68% of the measures will fall within one standard deviation above and below the mean.

Simplistically, one standard deviation encompasses 32 measures. On the low end of the rankings, six measures are outside one standard deviation. These six lowest ranked measures have mean scores ranging from 4.41 to 4.05, with standard deviations ranging from 1.79 to 1.64. The measures are distributed under the following domains, four in quality, one in readiness, and one in special interest. The standard deviations with these low ranking measures are wider than with the high-ranking measures, revealing higher disagreement among respondents as to their ranking within the standard set. The quality measures are based on malpractice claims filed, malpractice claims paid, beneficiary appeals, and JCAHO grid scores. These measures are more applicable at the health plan or regional level than at the hospital. According to Berkow and Seth (2000), these were measures selected for inclusion with health plan vice hospital dashboards. The majority of the cost measures fell within one standard deviation of the grand mean. To reduce the number of measures within the set to approximately 40, as recommended by the Health Care Advisory Board (Berkow & Seth, Health Plan Measures, 2000), based on the results of this questionnaire, the MHS would lose 40% of its quality based measures. These are the last ranked measures in the proposed set.

Interpreting these results leads one to conclude that command teams at the various command levels and services agree that customer satisfaction measures are most applicable for use within the enterprise. The focus in MHS facilities is to improve the interaction between the provider of care, to include administrative functions, and the customer. This may be a factor of a desire to improve customer satisfaction with services provided, increase the enrolled population and market share, decrease beneficiary reliance upon the managed care contractors, and increase productivity at the military

facilities. This coincides with TRICARE's latest strategic goal, to improve patient satisfaction (Cowan, 2001). The field is in synch with TMA's focus to improve customer satisfaction. This synergy is a result of effective communication and cooperation between TMA and the services. A number of these satisfaction measures are leading indicators that enable leaders to track performance, modify operations, and change employee behavior to increase productivity, market share, and ultimately decrease dependence upon the purchased care system.

The respondents also agree that cost measures are of medium importance since they all clustered within one standard deviation from the grand mean score, with an average standard deviation of 1.47. Considering the high priority placed on controlling cost at the highest levels in DoD, it is eye opening to see that these measures do not rate higher on the applicability scale. Though ascertaining causes for their ranking distributions is inappropriate, a number of reasons for the results can be discussed.

For example, some measures are similar (cost per visit weighted and visits per 1000 weighted, bed days per 1000 and dispositions per 1000 and RWPs per 1000). Most of the cost measures are lagging indicators; they describe what occurred but do not answer the question why it occurred or assist in predicting future position. Further, many command teams may feel that they are not in control of their budget. Decisions made at their level will have little impact on overall future funding allocations. This is, unfortunately, one of many shortcomings of the federal fiscal process. Next, the purchased care budget is carved out and depending on the region, it is under revised financing or under TRICARE 1.0. This difference forces healthcare leaders, managers, and providers to run two different TRICARE systems encompassing a number of diverse

business rules. This contractual system is highly complex. The majority of those MTF administrators do not understand the intricacies of the Bid Price Adjustments (BPA), resource sharing agreements, and effects of workload variances. Finally, though the list can go on, what is the incentive? Midway through the year, the system will get a Congressional supplemental or the DoD will reprogram. In this vein, commanders are not encouraged to create efficiencies because historical funding processes actually reduce funding allocations regardless of requirements. Therefore, financial measures, though critical at the highest levels within DoD, may prove not to be the focus at the operational level.

The quality measures that were rated lowest are measures relating to MHS concerns. These measures do not echo the hard clinical quality or health plan measures encountered at hospitals and other healthcare facilities. These clinical/health plan quality measures were absent from the proposed standard set. Hard clinical quality measures reviewed at hospitals and health plans include unplanned return to specialty care and operating room rates, patient fall with injury rate, number of serious adverse drug events, and acute care readmission rate, to name a few. These and similar quality measures may have received higher ratings, at least with the MTF command teams. It would be beneficial to study the effectiveness of tracking some of the lowest ranked measures to possibly delete them from the set. If all parties agree that they are unimportant, analyzing those measures' results have little impact on improving operations.

A quick review of the six lowest ranked measures, outside one standard deviation, showed that none of the six had a mean rating among the independent variables (service, level of command, profession) of 5.01 or greater. Most of the ratings fell around 4.10. For

example, JCAHO grid score results, a measure of clinical quality, was rated lowest among physicians (3.68). This may denote that providers do not consider this measure to be of value. Improving clinical quality and modifying provider behavior may be better served with other more accepted and objective measures of performance. Another example is malpractice claims paid. According to TMA this is a measure of clinical quality, yet the administrators in the field gave it a 3.45 rating. It could be argued that this might not be a clinical quality rating but actually a rating depicting the validity of claims filed. If so, what is the objective of this performance measure, is it clinical quality or claims administration/legal effectiveness. Measures such as this one that can be used in various ways to meet a number of objectives could generate unintended employee behaviors and perverse incentives. Reviewing the purpose of each metric to ensure it measures processes and outcomes in accordance with selected goals is important to decreasing the possibility of perverse incentives and missed management objectives.

Part Three of Questionnaire

Since some measures were rated higher than others as far as applicability for decision making in the respondents' respective service, level of command, and profession, some measures may exist that were not incorporated in the proposed standard set. Possibly, the work group did not include all the pertinent metrics used by services and professions within specific levels of command. Therefore, it is beneficial to analyze any additional metrics included in the questionnaires for broad areas of agreement and frequency. Part III of the questionnaire asked the respondents to add any performance measures, that in their estimation where missing from the proposed standard set. The results are presented by service in appendix Z and by level of command in appendix AA.

The researcher grouped the recommended measures into 17 separate domains to identify specific differences in opinion. The domains created are Utilization, Employee Satisfaction, Stakeholder Satisfaction, Staffing, PMPM Cost, Quality, Health Status, Preventive Care, General Cost, Direct Care vs. Purchased Care, HEDIS, Resource Availability, Enrollment, Billing/Claims, Patient Acuity/Case Mix Index, Readiness, and Provider Certification. The most popular domains were utilization (12 hits), staffing (9 hits), and Employee Satisfaction (6 hits). Hits are defined as the number of times a measure was included as an addition in part III. For example, the respondents did not add 12 new utilization measures, but either stated more utilization rates or gave examples of specific measures. Some of these specific measures were repeated among different respondents. The five most requested additions (ranked) are 1) percent providers satisfied with job and TRICARE, 2) percent staffing of PCM support staff/positions, 3) visits per provider per day, weighted, 4) percent time providers at clinic, administration, or other duties, 5) number of visits per member per month (appendix AB).

The three most popular domains, utilization, staffing, and employee satisfaction exhibited some interesting results. Based on the distribution, under utilization the Army, Navy, and Air Force had similar results. The Army had five hits, the Navy three hits, and the Air Force four hits. What is interesting is the distribution for utilization under level of command. The MTF command teams had nine hits, the TRICARE regions three hits, and the executive level had zero hits. This points to a requirement and importance of tracking utilization specific measures at the point of care.

Under staffing measures, the break down was more marked under services. The Army and Air Force had four hits and the Navy only one. There might be a number of

reasons for this, but one cannot assume without further research. Again, looking at staffing from the level of command variable, one notes a difference in hits. The MTF command teams requested staffing measures eight times, the TRICARE regions zero times, and the executive level one time. This may lead one to assume that staffing ratios are important to track at the hospitals.

Finally, under employee satisfaction, it is interesting to note that all the hits originated from questionnaires at the MTF level of command. This could be a function of heightened awareness of employee and provider satisfaction at the hospital. The leaders in these organizations are normally the ones that hear the complaints and observe dissatisfaction first hand. Provider and employee satisfaction measures are missing in the proposed standard set. Dr. Sears, Executive Director, TMA has spoken many times of the importance of provider satisfaction within the MHS. In all his visits, he incorporates provider panels to assess provider satisfaction and field questions. Provider and employee satisfaction measures are critical leading indicators of customer satisfaction and in many cases operational effectiveness (Berkow & Seth, 2000). Based on the results from the questionnaire, TMA should consider adding some provider satisfaction measures to the standard set.

Unfortunately, other than portraying the results and ranking the top five requested performance measures and the 17 performance areas, the research cannot devise conclusions from these data due to some constraints. The most salient concern was that the MTFs had the greatest number of questionnaires; therefore, they had the majority of the input. A majority of input leads to the greatest number of hits. Possibly, that is why the majority of recommended measures and domains are hospital specific.

Factor Analysis

Based on the high number of measures that demonstrated agreement among respondents and the various domain areas proposed under part III, the researcher conducted a test to determine areas of natural agreement. This was the next logical step to see if the domains or performance measurement areas selected by TMA and HA coincided with the results from the field. As stated earlier TMA grouped the measures under quality, access, cost, health outcomes, and special interest.

Factor analysis identifies those underlying constructs among responses. A factor or component is a "construct, a hypothetical entity, a latent variable that is assumed to underlie tests, scales, items..."(Kerlinger, 1986, p. 569). Factor analysis is a technique "designed to identify factors, or dimensions, that underlie the relations among a set of observed variables" (Pedhazur & Schmelkin, 1991, p. 66). It discerns natural areas of agreement among the respondents depending on the way that they rated the items on the questionnaire. In an effort to reduce data in determining item correlations, the correlation matrix can be factor analyzed. This creates factor loadings (estimate of the relation between the item and the factor/dimension) which are then appraised to identify meaningful item to factor correlations (Pedhazur & Schmelkin).

Two iterations of Factor Analysis were computed. Factors, dimensions, or components were retained for analysis if they had an eigenvalue equal to or greater than 1.00. In the first run, 11 components were identified with an eigenvalue of 1.00 or more. The total variance attributed to these components was 80.9%. Seven of the eleven components were identified clearly. The other four components had measures of similar content except for component number nine. Loading values of .5 or greater were used to

place specific items within the selected component. The prevailing literature states that loading values of .4 or .5 are considered meaningful (Pedhazur & Schmelkin, 1991). In this run, two items were not considered meaningful under any of the 11 components. They were nurse full time equivalents per weighted bed day and JCAHO grid scores. The highest loaded values for the Nurse FTE item, .496 and .467 fell within the professional competency and cost components respectively. TMA had placed it is under the cost domain.

Table 14. Factor Analysis, 11 components

Component	Eigenvalue	% of Variance	Cumulative %
Customer Satisfaction (1) Soft measures	12.031	25.598	25.598
Cost (2)	6.497	13.824	39.422
Professional Competency (3)	4.370	9.298	48.720
Data Quality (4)	2.694	5.732	54.452
Customer Satisfaction (5) Hard measures	2.604	5.540	59.992
Health Status/preventive (6)	2.345	4.989	64.981
Market Share (7)	1.934	4.115	69.096
Utilization/Cost/Enroll (8)	1.661	3.533	72.629
Readiness (9)	1.514	3.221	75.850
Utilization/Cost/ (10)	1.233	2.624	78.474
Utilization/Enroll (11)	1.159	2.465	80.939

The eleven components were difficult to discern due to a number of overlapping underlying constructs and concepts. Based on the eigenvalues, the researcher cut the

available factors down to three. This reduction was accomplished with guidance from Dr.

Mangelsdorff, Baylor University, to try and reduce the components further and to

simplify the structure and analysis (Dave Mangelsdorff, personal communication, March

5, 2001). To properly reduce the components, the eigenvalues are examined to determine

the most noticeable drop in value. In this study, a scree plot was prepared to give a visual

representation of the outcome. The scree plot below exposes the "edge of the cliff" (S.

Porter, personal communication, March 3, 2001) clearly. Any values below the edge of

the cliff are considered superfluous.

Figure 1. Scree Plot, Factor Analysis

Factors/Components
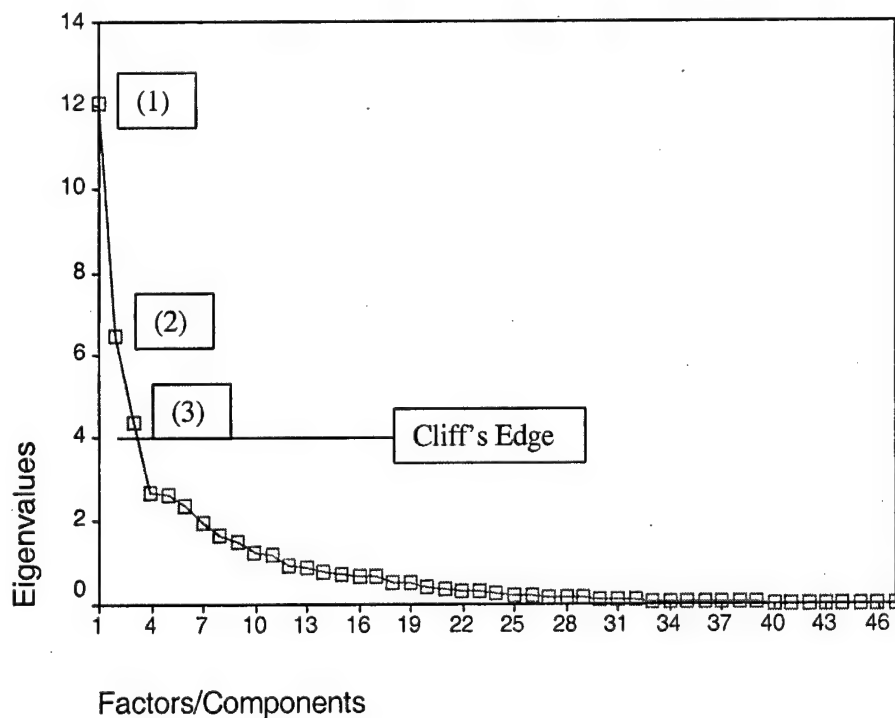
Components with eigenvalues less than 4.0 were discarded. The second iteration was

calculated as before, except that the researcher set a limit on the number of factors or

components to three.

Table 15. Factor Analysis, 3 components

Component	Eigenvalue	% of Variance	Cumulative %
Financial (1)	12.031	25.598	25.598
Satisfaction (2)	6.497	13.824	39.422
Quality & Operations Efficiency (3)	4.370	9.298	48.720

Under this parameter, the cumulative variance attributed to the three components with an eigenvalue over four is 48.7%. Factor loadings above .5 were used to fit the metrics within a component. Thirty-two items were "relatively 'pure' measures of their respective factors" (Kerlinger, 1986, p. 575). That means that those tests were highly loaded in one factor as opposed to the other two factors. A highly loaded test exhibits a good fit within the factor. For example, laboratory costs had a factor loading of .836 under factor one (financial) versus loadings of .177 and .074 under the other components. Therefore, laboratory costs would be described as being a pure measure of factor one (financial).

Table 16. Number "pure" items by component

Component	# items high load	total measures	% pure
Financial (1)	11	14	78.6
Satisfaction (2)	09	09	100.0
Quality & Operations Efficiency (3)	12	15	80.0
Measures not fitting into any Factor (.5 ≤ loading)		09	

The items that were not pure had at least two loadings that were relatively similar. As exhibited in the table above, satisfaction had the highest percentage of pure items based on the measures selected with a loading of .5 or greater. The results above point to high agreement among the respondents that the satisfaction type items/metrics measured satisfaction related objectives. Financial, with the lowest percentage, had more items as a ratio that did not reveal high loading factors, when compared to the other two components.

This may point to slight disagreement among the respondents as to what those metrics are actually measuring. For example, based on the responses, nurse FTE per weighted bed could fit into both financial and quality and operations efficiency domains/factors. Other examples are the malpractice claims measures. Are the underlying constructs financial or quality/operations? One can make the argument for either one, depending on what the leadership is trying to measure. The following table breaks down the measures with similar factor loadings, denoting slight disagreement as to what component or domain they should reside in. These measures could become candidates for extensive review to ensure they measure what was intended, based on management objectives. In addition, these measures might encourage perverse incentives or unintended changes in behavior.

Table 17. Items with similar factor loadings (not pure) by component

Items	Financial & Health (1)	Satisfaction (2)	Quality & Ops effic (3)
Capital Costs	.570	-.102	.462
Cost per Relative Weighted Product	.423	-.136	.431

Table Continues

Items	Financial & Health (1)	Satisfaction (2)	Quality & Ops effic (3)
Cost per Visit- Weighted	.462	-.249	.448
Direct Care Market Share (Inpatient)	.236	6.01E-02	.254
Direct Care Market Share (Outpatient)	.215	.197	.372
Malpractice Claims Filed	.477	.158	.530
Malpractice Claims Paid	.477	.125	.525
MCSC % calls answered In two minutes	.118	.374	.580
Nurse FTE per Weighted Bed day	.661	6.72E-02	.444
Enrollees seen by PCM	.557	.386	-6.57-02
Wait time for Appointment	.318	.481	1.01E-02

In addition to the list portrayed above, nine items did not meet the .5 loading factor threshold score. The nine metrics are 1) cost per relative weighted product, 2) cost per visit-weighted, 3) direct care market share (inpatient), 4) direct care market share (outpatient), 5) eligible enrolled at MTF, 6) emergency room visits, 7) preventive care measures, 8) visits per provider per day, and 9) wait time for appointment. Five of the nine, though, had loading scores above .4. They are 1) cost per relative weighted product, 2) cost per visit-weighted, 3) eligible enrolled at MTF, 4) emergency room visits, and 5)

wait time for appointment. Though these items do not exhibit meaningful loading factors,

TMA placed them into the cost, access, quality, and healthcare outcome domains.

Table 18. Items with loading factors less than .5 and the TMA domains

Items	Domains
Cost per Relative Weighted Product	Cost
Cost per Visit-Weighted	Cost
Direct Care Market Share (Inpatient)	Access
Direct Care Market Share (Outpatient)	Access
Eligible Enrolled at MTF	Quality
Emergency Room Visits	Access
Preventive Care Measures	Health Outcomes
Visits per Provider per Day	Cost
Wait time for Appointment	Access

Though the above items are not significant in any of the three components, they are still

important in assessing performance and goal attainment. For example, preventive care

measures are popular metrics of population health and wellness improvements. Based on

questionnaire responses, a loading factor of .499 or lower suggests that those items did

not fit into the three component constraints. Under the first iteration of factor analysis,

where the eigenvalue threshold was 1.0 and not 4.0, all nine metrics exhibited factor

loadings greater than .5. Five of the nine measures described above fell into three similar

components in the first test. These measures are cost per RWP, cost per visit, emergency

room visits, eligible enrolled at MTF, and visits per provider. Those three components

had an underlying construct relating to utilization. This construct was not forced into the

three components once the test was repeated under the artificial constraint and those

measures fell out. Not fitting into an existing component though, does not connote

deletion from the proposed standard set. It represents the possibility that, a decision based

on the scree plot to reduce the components increases the possibility of missing some

underlying concepts or that the respondents did not correlate those measures to other

similar ones. It basically denotes a vacillation among respondents if the components are

reduced to three as to what construct those measures represent best.

Agreement between TMA's domain selection and the factor analysis results is

difficult to discern based on the different number of factors/domains, three versus five,

and the different construct identifications. Another reason for this difficulty is that TMA

has satisfaction measures interspersed between quality and access. Yet, it is interesting to

see the relationship between the factor-analyzed respondents' scores and TMA's domain

selection. The following side-by-side table illustrates those similarities and differences

well.

Table 19. Comparison between factor analysis results and TMA domains

Performance Measure	FA	TMA
Satisfaction with Quality of Health Care	Satisfaction	Quality
% Beneficiary Satisfied with Customer Service	Satisfaction	Quality
Patient Satisfaction with Access	Satisfaction	Access
Satisfaction with Access to Healthcare	Satisfaction	Access
Overall Satisfaction with Clinic Visit	Satisfaction	Quality

Performance Measure	FA	TMA
Patient Satisfaction with Waiting Times	Satisfaction	Access
% Eligible Enrolled to MTF*	N/A	Quality
Cost per Enrollee	Financial	Cost
Ease of Making Appointment by Phone	Satisfaction	Access
Emergency Room Visits per 1000 Enrollees*	N/A	Access
Preventive Care Measures (ex. Pap smears)*	N/A	Health
Pharmacy Cost per Member per Month	Financial	Cost
Satisfaction with Access to Specialist	Satisfaction	Access
Direct Care Market Share - Outpatient workload*	N/A	Access
Wait Time for Appointment (TRICARE Stds)*	N/A	Access
% of Enrollees Seen by their PCM*	Financial	Quality
Wait Time at Appointment (30 minute standard)	Satisfaction	Access
Visits per Provider per Day*	N/A	Cost
Cost per Visit Weighted*	N/A	Cost
Dental Readiness (% Class 1 and 2)*	Quality/Ops	Readiness
% Providers Medical Readiness Tnd & Certified*	Quality/Ops	Readiness
Cost per Bed day	Financial	Cost
Preventable Admission Rates--Prime Enrollees*	Financial	Access
Cost per RWP (Relative Weighted Product)*	N/A	Cost
Claims Processed within 30 Days*	Quality/Ops	Cost
Visits per 1000 Weighted	Financial	Cost
Dental Wellness (% Class1)*	Quality	Readiness
Direct Care Market Share - Inpatient workload*	N/A	Access
MCSC % of Calls Answered within 2 minutes*	Quality/Ops	Access
Laboratory Costs per Member/Month	Financial	Cost
Radiology Costs per Member/Month	Financial	Cost
SADR Completion Rate*	Quality/Ops	Special
SIDR Completion Rate*	Quality/Ops	Special
Capital Costs per Member per Month	Financial	Cost

Table Continues

Performance Measure	FA	TMA
Bed days per 1000 Enrollees	Financial	Cost
MCSC Phones --- % of all lines busy*	Quality/Ops	Access
Dispositions per 1000 Enrollees	Financial	Cost .
Nurse FTE per Weighted Bed Day	Financial	Cost
Beneficiary Grievances/1000 Enrollees	Quality/Ops	Quality
RWPs per 1000 enrollees	Financial	Cost
Health Status (self reported on SF 12—mean)*	Financial	Health
MEPRS Completion Rate*	Quality/Ops	Special
% of AD Members with Temp Medical Profiles*	Quality/Ops	Readiness
Beneficiary Appeals per 1000 Claims	Quality/Ops	Quality
JCAHO Grid Scores	Quality/Ops	Quality
Malpractice Claims Paid per 100 Physicians	Quality/Ops	Quality
Malpractice Claims Filed per 100 Physicians	Quality/Ops	Quality

*Observed differences between TMA domain and the factor

As reflected above, one can quickly spot similarities and differences. The satisfaction factor relates both to access and quality, due to TMA's placement of both service and clinical satisfaction measures into access and quality respectively. Thus, these are not considered as different, since the underlying idea is still the same. Discounting those observed (*) items that had factor loading values of less than .5 (N/A on the table above), there are 13 initial items with unmatched factors.

There are a number of reasons for this phenomenon. The most prominent is that under calculations based on only three components, those eigenvalues above 4.0, those measures were forced into a factor. Under 11 components, the first factor analysis run, the readiness, special (data quality) and health outcome measures as defined by TMA, actually fit in their own factor. With only three components to choose from they were

placed into quality and operations efficiency for the readiness measures and into financial for the health outcomes measures.

Yet, if one decomposes those measures under readiness and special, one can see their relation to quality and operational efficiency. For example, a high state of dental wellness or readiness could equate to quality care. Further, certified and trained providers should effectively improve the quality of care. The respondents, based on their answers, related (correlated) these measures to other quality type metrics; therefore, the underlying construct for these measures turns out to be quality.

Those special (data quality) measures were placed within quality and operational efficiency also. This is logical. Empirically, the same concept applies to data quality that applies to the other measures of quality. The respondents' results demonstrated a correlation between those data quality measures and the other quality measures. Therefore, the data quality measures had high factor loadings, above .700, under the quality and operational efficiency component.

Thus, the actual unmatched measures dropped from 13 to six. The six that were not readiness or special related were 1) MCSC % of calls answered within 2 minutes, 2) MCSC phones --- % of all lines busy 3) claims processed within 30 days, 4) preventable admission rates--prime enrollees, 5) percent of enrollees seen by their PCM, and 6) health status. Four of the six metrics were pure measures in their respective factor. They are 1) MCSC phones--percent of all lines busy 2) preventable admission rates, 3) claims processed, and 4) health status. These measures should be looked at to ensure they are driving the desired behavior at the MTFs and the regions. In these cases, there is little agreement as to where these measures should fall between TMA and the questionnaire

respondents. For example, preventable admission rates are considered an access issue at TMA; yet in the field it becomes a measure of financial importance. This may effect a change within the operational process and the leadership focus at the MTF, which is not anticipated at TMA.

The other two measures were not pure. Most respondents correlated enrollees seen by PCM to other financial measures and MCSC calls answered within two minutes to other quality/operations efficiency measures. TMA, though, considers MCSC calls answered an access metric and enrollees seen by PCM as a quality measure. MCSC calls answered within two minutes exhibited factor-loading scores of .374 for satisfaction and .580 for quality/operations efficiency. Satisfaction is related to access measures; therefore, the difference is opinion is minimal. On the other hand, enrollee seen by PCM had an extremely low factor loading score under quality/operations efficiency (.0657) as compared to .557 for financial. Thus it seems that the respondents correlated this metric to other financial type metrics instead of quality type metrics. TMA believes that if a patient is seen by the PCM, clinical quality increases. The respondents link PCM treatment of a patient to organizational fiscal health, not to an increase in the quality of healthcare provision. This may underlie the belief that providers in MTFs are qualified, professional, and will care for those non-enrolled and enrolled patients equally.

Although the last couple paragraphs concentrated on the differences between TMA and the respondents, the interesting point are the strong similarities. Thirty-two performance measures were empirically located within factors that matched TMA's rational selection of groupings. That equates to a 68% match using only three components as a constraint and including the measures with loading factors under the .5

threshold in the total. Not including those measures that did not meet the threshold the result becomes 84%. Quality measures had the highest level of agreement at 80% (including N/A) and 89% (not including N/A). Even with the untraditional selection of domains to match the tenets of healthcare, the match between the field and TMA is considerable. That may be the case in point within the MHS, but a comparison with the private sector yielded diverse results.

Gap Analysis between the Proposed Standard Set and the Private Sector

To complete an analysis of the proposed standard metric set it is beneficial to review what health care organizations in the private sector are doing. The gap analysis was conducted to identify any glaring differences and similarities between the private sector and the MHS. There were some complications during this process.

First, none of the organizations selected domains or performance measures in the same manner. For example, one organization was studying the implementation of a balanced score card, another was selecting a core set of metrics based on what the leadership thought was important, and another tailored their metrics to customer needs. The thread that tied all those organizations though, was a system that connected the performance measures to management objectives. The objectives were either short-term or long-term, depending on the organizational plan. Two organizations, in addition to long-term plans, created metrics to measure performance for short-term (one-year) goals. These short-term plans were organized to support major strategic goals within functional areas. In addition, the short-term plan was used to create objectives for senior managers to incorporate into their yearly performance appraisals. The inclusion of objectives in performance appraisals is similar to the Army's support form.

A second complication was that many organizations had reports that were not integrated. A case similar to the MHS where integration based on management objectives is lacking. These establishments had hundreds of performance measures that were formed at all levels within their organizations.

Third, because the measures were created without a coordinated effort, domains and supporting goals were difficult to determine. Fourth, in some cases, the researcher may not have received all the pertinent information from the organization. Regardless of these challenges, the information provided by the organizations was extremely useful to conduct a cursory gap analysis.

The first step was to distinguish the domains or performance measurement areas used by the organizations, determine those counts by organization, and count the number of measures within each area (appendix AC & AD). Appendix AC shows the total number of performance measures reviewed at the senior level of each organization. The average number of performance measures for the private sector was 39. These figures range from a low of 19 to a high of 62. The recommended number of performance measures for a health plan was 33 and a health system 40 (Berkow & Seth, 2000). The MHS with 47 measures in the proposed standard set falls within one standard deviation, $\sigma = 14.55$, from the private sector mean (39). In total quantity terms, the difference is not significant.

Appendix AD breaks out the domains by organization with the number of measures per domain. As one can see, the private sector domain names are not similar to the MHS's. This is predominately due to their practice of tying a domain to major strategic goals. Though, there were no instances that the organizations had implemented

the balanced score card (BSC) system, their selection of domains represents an approach similar to BSC. Those organizations selected areas from different business processes to provide a detailed picture of performance. According to the Berkow and Seth (2000), health system executives are adopting dashboard type metric tools that incorporate various areas of interest. To depict a balanced type approach, the MHS related their domains to the three healthcare tenets portrayed in the iron triangle (quality, access, and cost). Though these labels are different, the MHS also reviews results from different operational perspectives that are similar in nature. A major similarity is the popularity of specific performance measurement areas among the organizations.

Table 20. Domains with the highest number of measures by type of organization

Organization Type	Domain	# Measures
Health System	Financial	28
Health System	Financial	22
Health Plan	Financial	08
Health Plan	Quality	15
Health Plan	Performance	11
Health Plan (HCAB)	Financial	10
Hospital (HCAB)	Operational	11
HMOs	Financial	20
MHS	Cost	15

Though, all the organizations include various performance areas, undoubtedly, financial measures are still the most popular. According to Kaplan and Norton (1996),

historically the measurement system for business is financial. The results above show that both the MHS and the private sector concentrate on fiscal measures. The similarity is the requirement to remain fiscally viable. The private sector's interest is revenue growth and expense reduction, while the MHS concentrates on controlling costs to remain within budgetary parameters. When the numbers of measures per domain are aggregated to include all the private sector organizations, one obtains some interesting proportions (Appendix AE).

The highest proportion for both the private sector and the MHS was financial. The financial proportion of the total number for the private sector was 39% and 32% for the MHS. The second highest for the private sector was quality which included both clinical and service. Clinical quality was much greater than service, 17% proportion to total versus 2%. Further more, the private sector's customer satisfaction measures equated to only 6% of the total.

The MHS's second highest was access (28%) which relates most closely to service quality and customer satisfaction. Based on proportions, the private sector concentrates more on those clinical quality measures and less on the soft customer satisfaction measures. Examples of clinical quality measures include unplanned return to specialty care and operating room rates, patient fall with injury rate, number of serious adverse drug events, and acute care readmission rate. The MHS on the other hand, was more interested on those soft customer service measures, which are normally self-reported. Interestingly, the MHS respondents (part II) ranked six of those soft customer support measures (access) in the top 10 most applicable for the standard set.

Finally, the number that begs to be reviewed is the proportion of employee satisfaction measures to the total within the private sector. Including one workplace measures, the number is 7% as compared to the MHS's 0%. According to the MHS questionnaire respondents, the top measure that should be included in the proposed standard set is an employee satisfaction measure. In addition, the executive director of TMA takes special care to include employee satisfaction issues on his trips. The importance of this measure is its ability to predict future financial health and customer satisfaction. The metric working group should review the possibility of adding selected employee/provider satisfaction measures within the standard set. Agreement is strong among the questionnaire respondents, the Executive Director of TMA, and the private sector. Differences and similarities are obvious to the naked eye; the point now is to quantify those differences.

The next step in the analysis is to establish a variance between the domains of the private sector and the MHS (Appendix AF). This process was tricky, because to properly quantify differences, the researcher had to manipulate the performance measures to insure orange-to-orange comparisons. As one can detect in the appendix, the private sector proportions were slightly modified to ensure that the underlying constructs between domains matched.

The largest variances were noted under access and cost. The MHS has 16% more access type measures (satisfaction and customer oriented operational) than the healthcare organizations in the private sector. On the other side of the coin, the MHS has 15% less cost (financial and fiscal operational) measures than the private sector. The difficulty of analyzing these data was determining what measures fit in which domains. Because the

MHS domains do not fit uniformly with the private sector, this reshuffling probably introduced additional error into the analysis process. The results under the general variance column in appendix AF are the best possible representations of the raw data. The results lead one to conclude that certain differences exist, the magnitude of those differences, as represented in the variance column, must be interpreted with caution. Now that the general differences are identified, what are some of the similarities in measures?

Appendix AG points out all the similar performance measures between the MHS and each organization. The results were lower than anticipated and with further analysis some interesting themes were obtained.

Table 21. Number of common performance measures with the MHS

Organization Name	# Similar Measures	% of Total that are Similar
Johns Hopkins	8	14
INOVA	9	15
United Health	3	16
Humana	4	15
Anthem	6	19
Health Plan (HCAB)	8	**20**
Hospital (HCAB)	3	09
American Association of Health Plans (AAHP)	3	09

The results of the Health Care Advisory Board study for health plans yielded the highest percentage of measures similar to the MHS. This makes sense, because TMA's proposed metric set has a health plan focus. The metric set is made up predominately

with those measures found in private sector health plans. The low percentage with the measures contained in the AAHP document is based upon a high concentration of financial measures. Eighty-two percent of AAHP's measures were financial.

When compared to the HCAB's hospital measures, the similarity was low with only nine measures. The proposed standard set is a template and could not include all hospital level metrics. The MTF respondents' requests (part III) for hospital specific additional metrics and a low association between the standard set and HCAB's hospital template indicate a possible weakness in this standard set.

Those similar health plan measures were distributed among TMA's cost, quality, and access. Four of the nine fell under cost, three under quality, and two under access. The HCAB allocated these measures under utilization, clinical quality, and service quality. Six measures were under utilization, one under clinical quality, and one under service quality. Though the measures are similar in type, their application based on the underlying construct is different. The table below reflects the specific domains, to include the results of factor analysis.

Table 22. Common measures between HCAB (health plans) and the MHS

Measure	MHS Domain	FA component	Health Plan Domain
Beds occupied per 1000	Cost	Cost	Cost
# ER visits	Access	N/A	Utilization
# Enrolled	Quality	N/A	Utilization
Pharmacy expenses PMPM	Cost	Cost	Utilization
Outpatient visits per 1000	Cost	Cost	Utilization
Readmission rates	Access	Cost	Clin Quality

Table Continues

Measure	MHS Domain	FA component	Health Plan Domain
Physician encounters PMPM	Cost	N/A	Utilization
# Beneficiary grievances	Quality	Quality	Serv Quality

The difference between access and quality (MHS) and utilization (health plans) is remarkable to point out. In the MHS access measures measure availability of resources for our beneficiaries. Access is normally a concept the MHS wants to maximize, increasing its availability. Utilization on the other hand in a health plan is something that the managers want to decrease, especially if capitated. Note ER visits and readmission rates. It could be eloquently argued that the TMA working group has misplaced those two measures, possibly creating unintended behaviors. The factor analysis results (respondents) for ER visits put it under the financial component at .436 with negligible results in the other two components. The health plan recommended measures (HCAB) considers ER visits under the utilization component/domain. The lower the metric results, the more effective the medical management technique, reducing expenses and the medical loss ratio. Under TMA's access domain, the ER visit metric seems to encourage ER use, without truly decomposing and defining the metric further.

The same can be argued for readmission rates. Why would the MHS place readmission rates, a measure it should strive to reduce, under access? The private sector's placement under clinical quality is more appropriate because it measure effective health care delivery during the first admission. A readmission for a similar procedure points to reduced quality of care. Thus, this measure is a leading indicator of clinical quality, not access. It is a lagging statistical measure of access, with possible unintended results. The other six measures match in general underlying construct terms. The importance in this

example is that even if the measures are similar, the purposes based on the underlying constructs may differ. The incentives produced by the metrics may not be the same. Though the measures are the same, employee behavior will differ from organization to organization depending on the incentive.

Those purposes and incentives are normally in line with management objectives and goals reflected in the strategic plan. Therefore it is important to understand the underlying constructs within each measure to ensure the construct relates to the objectives. This complicates benchmarking operations between the private sector and the MHS. On the surface the metrics may look similar, but the purposes for each may be different.

Therefore, before the MHS undertakes additional major benchmarking projects, specifically when comparing to the private sector, it is beneficial to study the relationships of those underlying constructs. Based on the gap analysis, the MHS and the private sector organizations do exhibit a noteworthy difference. The differences exist among domains, performance measurement types, their design and implementation.

Because the MHS has a number of different strategic plans, goals, and management objectives, metric design and implementation does not map back to specific management objectives agreed upon by senior management. The Army with its balanced score card initiative is creating a system that most closely mirrors the private sector, but unfortunately, it applies specifically to the Army and not the MHS as a whole. With this in mind, if the MHS wants to institute a strategic management system with applicable metrics, the balanced scorecard is presently the tool "du' jour" in the private sector.

Summary

This project/study has both academic and corporate application. The OSD's senior leaders are asking the MHS to justify its $17 billion budget. As the DHP grows, weapons systems are cut. This unfortunately puts the MHS under the microscope. To ensure improved business practices reducing the overall costs, the three services and TMA are adopting changes in performance management processes.

The results of this study were surprising. Though the MHS is compartmentalized, specifically by service, the results of the internal MHS questionnaire exhibit no major significant difference. Of the 13 general metric utilization measures only one exhibited a significant difference of opinion among the respondents. This points to general agreement among various military officers from different services as to their understanding of general strategic performance measurement topics. Agreement at this level denotes an equal playing field among the respondents. Even though different service strategic positions and direction complicate the landscape, the respondents are aware of these factors and agree that initiatives to simplify the system be implemented. The time is ripe for change implemented with leadership buy-in.

The proposed standard metric set is an excellent starting point to standardize and simplify performance measurement. The respondents exhibited a high degree of agreement with the proposed measures within the set. This supports the argument that a working group, properly represented from each service, can produce a tool for use throughout the MHS. With minor modifications, the proposed standard set fills the need for a metrics template and executive management tool. Adding leading indicators like employee or provider satisfaction measures to this set would improve predictive power.

Within the proposed set six measures represented significant disagreement as to their value. In addition, the respondents rated approximately six more measures lowest, outside one standard deviation, on the scale. Once analyzed these measures may be excluded in future iterations of the standard set. Furthermore, a number of hospital specific and employee satisfaction type measures should be considered for inclusion in the standard set.

Based on factor analysis, a review of the domain labels added value. Possibly changing them from the tenets of healthcare to performance measurement areas that relate better to corporate goals, priorities, and management objectives. What does access mean? One of its components, customer satisfaction is simpler to qualify and define as a construct. Among other factors, quality equates to both clinical and service quality, extricating those into separate domains will reduce confusion among employees.

Finally, some performance measures in the set may impel perverse incentives. A testing period prior to full implementation will identify those measures that drive unintended behaviors. Misunderstanding senior leader objectives increases the likelihood of a confounding application of the measures. That also further supports simplification of domains and measurement tools.

The gap analysis conducted with the private sector exposed the pertinent differences between the MHS and those organizations. The most salient was the domain differences, which further supports a review of TMA's domains and the assignment of certain measures under each. Although the percentages of similar measures between the MHS and the private sector were low, the underlying constructs were generally analogous. Both types of organizations focus on fiscal, customer satisfaction, and quality

type measures. Benchmarking MHS operations and results should be conducted sparingly to ensure the differences are sifted out. Unfortunately, though the concepts are similar, different measures in these organizations measure those constructs. The MHS cannot assume that because a metric is similar it measures comparable performance results in support of selected management objectives.

From the academic perspective, this study did not just educate the researcher, but also the various command teams and executive elements participating in the study. The goal is to energize the leaders to ask questions, basically become a catalyst for further analysis on the application of metrics under the tenets of health care in the MHS. In addition, it gave them an avenue to provide input to TMA as part of the process.

In conclusion, the proposed standard set is a suitable instrument that can be used effectively as a template throughout the MHS. It is suitable due to its acceptance within the MHS based on the responses to the questionnaire. Several respondents echoed that the set was "very inclusive" and represented "a good start" (Respondent questionnaires, 2001). This set is the first step towards meeting the guidelines set forth by the ASD (HA) and the DMOC to streamline and improve the MHS's performance measurement and reporting system. Based on general agreement, with some modifications, it is a tool useful to senior leadership to track key management areas and goal attainment. At the operational (MTF and Region) level this set will provide a comprehensive framework as a starting point to enhance decision-making in accordance with established goals.

Recommendation for Future Study.

This study opens up a number of possibilities for further research. Integration is the main goal of the optimization plan; therefore, most of the efforts of senior leaders in

the MHS should be geared towards integrating our three services' health care systems and strategic positions. Specifically in an area that requires unity of effort: implementation of the MHS strategic plan. Future work could be accomplished to assist in MHS integration, by bringing the services to the table to at least agree on a corporate/enterprise direction.

This study was broad in breadth in an effort to identify any differences in definition or thought process among the services, levels of command, and professions within the MHS. In addition, a cursory gap analysis with the private sector organizations assisted in identifying major differences/gaps. Follow on studies could study performance measurement from a more micro perspective. For example, what additional metrics are required at the hospital level and regional level, should the soft (self reported) measures be deleted, what perverse behavior are metrics with low factor loading driving, and how to correct this. Also, are the domains appropriate since they are not specifically tied to management objectives, is metric organization within each domain accurate, based on the factor analysis what can be done to align the TMA and the field for those differences, and should the MHS benchmark with the private sector.

This study may be the first to incorporate MTF command teams and regional views in executive making decisions at the strategic level. Metrics is a "hot" issue in business today enabling organizations to change employee behavior to accomplish long-term goals and meet management priorities. Any future study that advances the corporate body of knowledge in regard to metrics, integrated health care, and strategic plans will benefit the enterprise.

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Appendix A

List of Metric Sets

Performance Measurement System	Proponent	User / Management Focus
DHP Performance Contract	OASD(HA)	USD, ASD(HA)
TRICARE Operational Performance Statement (TOPS)	TMA HPA&E	TMA, OASD(HA), Services, TRICARE Regions, MTFs
MHS Measures of Performance	OASD(HA)/ TMA HPA&E	DMOC, USD(P&R), ASD(HA), TMA Executive Director, SGs
MHS Executive Summary	OASD(HA)	USD(P&R), DoD PA&E
Deliver The Promise	TMA HPA&E	USD(P&R), TMA, ASD(HA), SGs
Population Health Operational Tracking and Optimization (PHOTO) System	TMA IM	PCM Teams, MTF Leadership, Intermediate Commands, TRICARE Regions, OASD(HA), TMA

Several other performance reports, management tools, and data sets are currently in use within the MHS. While many of these products are not by definition metric systems, they have listed below as part of this inventory.

Product	Proponent	User / Management Focus
Region Report Card: Analysis of Leakage to the MCS Contracts	TMA RM	TMA RM, Regions
TMA Financial Performance "Wall Street Report"	TMA RM	Senior Executive Leadership
Regions At-A-Glance	TMA Ops	TMA, OASD(HA), Services, TRICARE Regions, MTFs
Region Status Report	TMA Ops	TMA, OASD(HA), Services, TRICARE Regions, MTFs
TRICARE Prime Enrollment Report	TMA Ops	TMA, OASD(HA), Services, TRICARE Regions, MTFs
Template Analysis Tool	TMA Ops	MTF Commander
CHCS Access Ad Hoc Tool	TMA Ops	
Appointment WIPT Metrics	TMA Ops	
Annual HEDIS Report	TMA Ops	
Annual Quality Management Report	TMA Ops	
TRICARE Consumer Reports	TMA HPA&E	
Private Sector Care Report	USAF	
Provider Perspectives	Region 3	PCMs, MTF Leadership

COMPARISON OF MILITARY HEALTH SYSTEM (MHS) PERFORMANCE MEASUREMENT SYSTEMS

Appendix B

METRIC COMPARISON SHEET

CHARACTERISTIC	PHOTO (HPA&E PHOTO TEMP)	TOPS	DELIVER THE PROMISE	MHS MEASURES OF PERFORMANCE	MHS EXECUTIVE SUMMARY
PURPOSE OF TOOL	Enables business process reengineering and population health improvement. Provides meaningful data and feedback to the primary care provider about enrollees Supports the MHS Optimization Plan.	Quarterly snapshot of performance of the MHS Identifies opportunities for improvement, provides historical record of performance, and operationalizes MHS Strategic Plan. Enables users to make decisions geared toward improving customer satisfaction and business practices, and achieving desired readiness and staffing levels.	Executive level presentation geared toward optimizing the MHS through improved enrollment, access, patient satisfaction, data completeness. Incorporates JCS Action Plan and TMA Executive Director Special Interest Metrics.	Key measures of performance that reflect the health of the MHS. Metrics are built upon the basic tenets of all health plans – Quality, Access, and Cost – and reflect the goals of MHS Optimization of Force Health Protection, Population Health, Recapture of Care into the MTFs, Improved Access, and Cost Containment/ Success of Contracts.	Key measures that reflect the financial performance of the MHS.
INTENDED USERS	PCM Teams, MTF Leadership, Intermediate Commands, TRICARE Regions, Headquarters commands OASD(HA) and TMA.	TMA, OASD(HA), Services, TRICARE Regions, MTFs	USD(P&R), TMA, OASD(HA), SGs	DMOC, USD(P&R), ASD(HA), TMA Executive Director, SGs	USD(P&R), DoD PA&E
IN SUPPORT OF	MHS Optimization Plan & MHS Strategic Plan	MHS Strategic Plan & DHP Performance Contract with DEPSECDEF	MHS Optimization Plan	MHS Optimization Plan HA Policy 00-003, 12 Apr 00	MHS Optimization Plan DoD Memo DRAFT (PA&E)
KEY COMPONENTS OF SUPPORT	1. Force Health Protection 2. Customer Responsiveness 3. Best Clinical Practices 4. Population Health Improvement 5. Best Business Practices	1. Joint Medical Readiness 2. Benchmark Health System 3. Healthy Communities 4. Training and Skills Development 5. Resources and Structure	1. Enrollment 2. Access 3. Quality 4. Value	1. Quality 2. Access 3. Cost	1. Population 2. Enrollment 3. Satisfaction 4. Utilization 5. Costs

CHARACTERISTIC	PHOTO (HPA&E PHOTO TEMP)	TOPS	DELIVER THE PROMISE	MHS MEASURES OF PERFORMANCE	MHS EXECUTIVE SUMMARY
GRAPHIC USER INTERFACE TECHNOLOGY	Web based **(PHOTO Temp-Excel Spreadsheets)**	Web based: www.tricare.osd.mil/reptcard/tops/topsrept.html	Powerpoint Presentation	Data-Excel Spreadsheet Presentation-Word Document with Powerpoint Slides	TBD
DEPLOYMENT	PHASE I: Beta Version of PHOTO available - Spring 00 PHASE II: Final Version of PHOTO available – Fall 00 **(PHOTO Temp-27 measures starting May 00)**	Quarterly since June 1998.	Monthly since 1999.	Monthly since May 2000.	TBD
FREQUENCY	Refreshed Monthly	Published Quarterly by 15th of Apr, Jul, Oct, Jan	Published Monthly by 28th of each Month	Submitted to OSD(HA) by 20th of each Month	TBD
DRILL LEVEL	To appropriate action officer: Service, Region, MTF, PCM and member	MHS, Service, Region, MTF	MHS, Service, Region	Data-MHS, Service, MTF Presentation-MHS, Service	MHS, Region, MTF
UNIT OF ANALYSIS	Enrolled Beneficiaries (MTF & MCSC)	Employer Perspective (E) - All Beneficiaries; Health Plan Level (H) – All Enrollees (MTF Enrollees and Network Enrollees) MTF Level (M) - MTF Users DTF Level (D) – DTF Users	Enrolled Beneficiaries	Direct Care Purchased Care	Direct Care Purchased Care
METRICS		E1. Active Duty (AD) Mental Health Status SF-12 Score Below 34.42 E2. AD Physical Health Status Score Below 42.34 E3. AD Temporarily Disqualified for Deployment - Medical Profile (*DHP Performance Contract*)			

CHARACTERISTIC	PHOTO (HPA&E PHOTO TEMP)	TOPS	DELIVER THE PROMISE	MHS MEASURES OF PERFORMANCE	MHS EXECUTIVE SUMMARY
METRICS (Cont'd)		E4. AD Temporarily Disqualified for Deployment (Dental Class 3 or 4) (Note: Measure only drills down to Service level) *(DHP Performance Contract)*			
		E5. Rating of All Health Care – All Beneficiaries *(CAHPS)*			
		E6. Getting Needed Care – All Beneficiaries *(CAHPS)*			
		E7. Rating of Health Plan – All Beneficiaries *(CAHPS)*			
		E8A. Preventable Admission Rates for AD computed for nine categories: Chronic Obstructive Pulmonary Disease, Bacterial Pneumonia, Asthma, Congestive Heart Failure, Angina, Cellulitis, Diabetes, Gastroenteritis, and Kidney/Urinary Infections. *(DHP Performance Contract)*			
		E8B. Preventable Admission Rates for ADFMs computed for nine categories: see E8A above. *(DHP Performance Contract)*			
		E9. Dental Wellness (Dental Class 1)			

CHARACTERISTIC	PHOTO (HPA&E PHOTO TEMP)	TOPS	DELIVER THE PROMISE	MHS MEASURES OF PERFORMANCE	MHS EXECUTIVE SUMMARY
METRICS (Cont'd)		E10. AD Family Member Mental Health Status Score Below 34.42			
		E11. AD Family Members Physical Health Status Score Below 42.34			
		E12. Percentage of Graduates from DoD GME Programs Passing Specialty Boards on First Try *(DHP Performance Contract)*			
		E13A-E. Match Between Medical/ Dental Billets and Personnel Inventory *(DHP Performance Contract)*			
		M1. Medical Readiness Trained and Certified *(DHP Performance Contract)*			
		M2. MTF Customer Satisfaction with Quality of Health Care at the MTF			
		M3. MTF Customer Satisfaction with Interpersonal Relations			
	Wait Time **at** Appointment	M4. Waiting Times **at** Appointment at MTF			
	Wait Time **for** Appointment	M5. MTF Prime Enrollees Meeting Appointment Waiting Standards (Wait Time **for** Appt) *(DHP Performance Contract)*	MTF Prime Enrollees Meeting Appointment Waiting Standards for Urgent and Routine Appts (Wait Time **for** Appt)		

CHARACTERISTIC	PHOTO (HPA&E PHOTO TEMP)	TOPS	DELIVER THE PROMISE	MHS MEASURES OF PERFORMANCE	MHS EXECUTIVE SUMMARY
METRICS (Cont'd)					
		M6A. Satisfaction with Access to Providers (All Users)			
		M6B. Satisfaction with Access to Providers (Prime)	Satisfaction with Access to Providers (Prime)		
		M7A. Satisfaction with Access to System Resources (All Users)			
		M7B. Satisfaction with Access to System Resources (Prime)			
		M8. MTF Prime Enrollee Propensity to Re-enroll			
	Overall Satisfaction with Care Received at an MTF (All Outpatient Users)	M9. Overall Satisfaction with MTF Clinic Visit *(DHP Performance Contract)*	Overall Satisfaction with MTF Clinic Visit Prime vs. Non-Prime)		Overall Satisfaction with MTF Clinic Visit
		M10. Overall Satisfaction with Medical Care Received at MTF			
		M11. JCAHO Grid Scores *(DHP Performance Contract)*			
		M12. Malpractice Claims Filed Per 100 MTF-Based Physicians			
		M13. Number of Malpractice Cases Paid Per 100 MTF-Based Physicians			
		M14. Enrollment Metric-- Under Development (possible DMOC Enrollment Measure, Actual vs. Target Enrollment, Enrollees per PCM)	Enrollment to MTF PCM	Total Enrollment by MHS, Service, and MCSC	Enrollment-Direct Care (AD, ADD, NADD<65, NADD>65) Enrollment-Network (AD, ADD, NADD<65, NADD>65)

CHARACTERISTIC	PHOTO (HPA&E PHOTO TEMP)	TOPS	DELIVER THE PROMISE	MHS MEASURES OF PERFORMANCE	MHS EXECUTIVE SUMMARY
METRICS (Cont'd)					Population (AD, ADD, NADD<65, NADD>65)
			Disenrollments by % of Total Enrollment		
			Ease of Making Appt by Phone	Ease of Making Appt by Phone-Prime Enrollees	Ease of Making Appt by Phone-Prime Enrollees
			Patients Seen by "Own" PCM		
		H1. Rating of All Health Care– Military PCM Based Health Care (*CAHPS*)			
		H2. Rating of All Health Care– Network PCM Based Health Care (*CAHPS*)			
		H3. Rating of Personal Physician– Military PCM Based Health Care (*CAHPS*)			
		H4. Rating of Personal Physician– Network PCM Based Health Care (*CAHPS*)			
		H5. Getting Needed Care-- Military PCM Based Health Care (*CAHPS*)			
		H6. Getting Needed Care-- Network PCM Based Health Care (*CAHPS*)			
		H7. Rating of Health Plan – Military PCM Based Health Care (*CAHPS*)			

METRICS (Cont'd)

CHARACTERISTIC	PHOTO (HPA&E PHOTO TEMP)	TOPS	DELIVER THE PROMISE	MHS MEASURES OF PERFORMANCE	MHS EXECUTIVE SUMMARY
		H8. Rating of Health Plan -- Network PCM Based Health Care (*CAHPS*)			
		H9. Customer Service Rating (*CAHPS*)			
		H10. Claims Processing Rating (*CAHPS*)			
		H11. Dispositions Per 1000 Prime Enrollees – Network-Based PCM Enrolled			Purchased Care Dispositions
		H12. Bed Days Per 1000 Prime Enrollees – Network-Based PCM Enrolled			
					Purchased Care RWPs
					Purchased Care Disposition Costs
	Discharges per 1000 Enrollees	H13. Dispositions Per 1000 Prime Enrollees - Military PCM Enrolled			Direct Care Dispositions
		H14. Bed Days Per 1000 Prime Enrollees - Military PCM Enrolled			
					Direct Care Dispositions
		H15. Claims Processed within 30 Days (*DHP Performance Contract*)	Claims Processed within 30 Days Claims Processed within 60 Days		Claims Processed within 30 Days
		H16. Incentives Awarded to MCSC			
		H17. MCSC Toll-Free Phone System All Lines Busy Rate			

CHARACTERISTIC	PHOTO (HPA&E PHOTO TEMP)	TOPS	DELIVER THE PROMISE	MHS MEASURES OF PERFORMANCE	MHS EXECUTIVE SUMMARY
METRICS (Cont'd)					
		H18. MCSC Percent of Calls Answered Within 120 seconds *(DHP Performance Contract)*	MCSC Calls Answered W/n 120 seconds		
		H19. Beneficiary Grievance Per 1000 Enrollees			
		H20. Beneficiary Appeals Per 1000 Claims			
	Preventable Admission Rates for Prime enrollees for nine diagnosis identified in the ASD(HA) Performance Contract	H21A-I. Preventable Admission Rates for Active Duty			
	Preventable Admission Rates for Prime enrollees for nine diagnosis identified in the ASD(HA) Performance Contract	H22A-1 Preventable Admission Rates for Non-AD Prime Enrollees			
	Prenatal Care in the First Trimester (HEDIS Measure) *(DHP Performance Contact – HP 2000)*				
	Childhood Immunization Status (HEDIS Measure) *(DHP Performance Contact – HP 2000)*				
	Active Duty Immunizations for Deployment				
	Percentage of Users Enrolled in Catchment Area				
	Percent External Customer Workload				
				Catchment Purchased Care Outpatient Encounters	Purchased CareOutpatient Encounters

CHARACTERISTIC

METRICS (Cont'd)

PHOTO (HPA&E PHOTO TEMP)	TOPS	DELIVER THE PROMISE	MHS MEASURES OF PERFORMANCE	MHS EXECUTIVE SUMMARY
			Catchment Area Purchased Care Outpatient Cost to the Govt	Purchased Care Visits Cost
	DQ1. SIDR Timeliness	SIDR Timeliness		
SADR Visit Count to MEQS Percentage	DQ2. SADR Compliance	SADR Compliance		
	DQ3. MEPRS Completion	MEPRS Completion		
Number of indirect care visits per month by direct care enrollees (external referrals)				
PMPM Financial Metric				
			Annual Cost per User (Quarterly Estimate)	Cost per User
Number of Prime enrollees per PCM				
Outpatient Visits Per Member Per Month (PMPM)/Per Member Per Year (PMPT)				
			Direct Care Ambulatory Encounters	Direct Care Ambulatory Encounters
			Direct Care Primary Care Ambulatory Encounters	
			Direct Care Primary Care Encounters per Available Provider per Month	
Specialty Referrals PMPM/PMPT				
Pharmacy Cost (PMPM/PMPT)				Direct Care Pharmacy Costs

CHARACTERISTIC	PHOTO (HPA&E PHOTO TEMP)	TOPS	DELIVER THE PROMISE	MHS MEASURES OF PERFORMANCE	MHS EXECUTIVE SUMMARY
METRICS (Cont'd)					Purchased Care Pharmacy Costs
	Average Length of Stay (MTF enrollees only)				
	Emergency Department (ED) Visits PMPM and per/1000 MTF Enrollees				
	Eye Exam for Diabetics (HEDIS Measure)				
	Follow-up for Hospitalization for Mental Illness (HEDIS Measure)				
	Checkup after Delivery (HEDIS)				
	Beta Blocker Treatment after a Heart Attack (HEDIS)				
	Asthma Management				
	Breast Cancer Screening (HEDIS Measure) *(DHP Performance Contact – HP 2000)*				
	Cervical Cancer Screening (HEDIS Measure) *(DHP Performance Contact – HP 2000)*				
			HEARS Completed		
			Network Provider Turnover		
		D1. Patient Satisfaction with Quality of Oral Health Care at the DTF			

CHARACTERISTIC	PHOTO (HPA&E PHOTO TEMP)	TOPS	DELIVER THE PROMISE	MHS MEASURES OF PERFORMANCE	MHS EXECUTIVE SUMMARY
METRICS (Cont'd)		D2. Patient Satisfaction with Interpersonal Relations at the DTF			
		D3. Waiting Time at Appointment at DTF			
		D4. Waiting Time for Appointment at DTF			
		D5. Satisfaction with Access to DTF Providers			
		D6. DTF Pateitn Propensity to Return to DTF for Care			
		D7. Overall Satisfaction with DTF			
		D8. Overall Satisfaction with Dental Care Received at DTF			
OTHER FEATURES		National Benchmarks			

| **Tenent** | **Performance Measure** |

I. Access

1 Wait Time at Appointment
2 Wait Time for Appointment
3 Patient Satisfaction with Access
4 Patient Satisfaction with Waiting Times
5 Satisfaction with Access to Healthcare
6 Satisfaction with Access to Specialist
7 Ease of Making Appointment by Phone
8 MCSC Percent of Calls Answered within 120 Seconds
9 MCSC Phones all lines busy
10 Preventable Admission Rates for Prime Enrollees
11 Direct Care Market Share - Outpatient
12 Direct Care Market Share - Inpatient
13 Emergency Room Visits/1000

II. Quality

1 Satisfaction with Quality of Health Care
2 Overall Satisfaction with Clinic Visit
3 JCAHO Grid Scores
4 Malpractice Claims Filed
5 Malpractice Claims Paid
6 Enrollment at MTF
7 Beneficiary Grievances
8 Beneficiary Appeals
9 Seen by PCM
10 Percent Beneficiary Satisfied with Customer Service

III. Cost

1 Bed days per 1000
2 RWPs per 1000
3 Dispositions per 1000
4 Claims Processed within 30 Days
5 Cost per User (Cost per Enrollee)
6 Pharmacy Cost
7 Cost per Bedday
8 Cost per RWP
9 Nurse FTE/Weighted Bed Day
10 Visits per Provider per Day
11 Cost per Visit Weighted
12 Visits per 1000 Weighted
13 Radiology Costs
14 Laboratory Costs
15 Capital Costs

IV. Readiness

1 Temporary Medical Profiles
2 Dental Readiness (Class 1 and 2)
3 Dental Wellness (Class 1)
4 Medical Readiness Trained and Certified

Tenent   **Performance Measure**

<u>V.   Health Outcomes</u>

                            1   Health Status
                            2   Preventive Care Measures

<u>VI.   Special Interest</u>   1   SIDR Completion
                            2   SADR Completion
                            3   MEPRS Completion

Total: | 47 |

List of Facilities for Selection

DMISID	FACILITY NAME	REGION	STATE/ COUNTRY	CITY	ZIP CODE	FACILITY TYPE	SERVICE	RESP. DMIS
0005	BASSETT ACH-FT. WAINWRIGHT	12	AK	FT. WAINWRIGHT	99703	HOSP	A	0005
0003	LYSTER ACH-FT. RUCKER	04	AL	FR. RUCKER	36362	HOSP	A	0003
0131	WEED ACH-FT. IRWIN	09	CA	FT. IRWIN	92310	HOSP	A	0131
0032	EVANS ACH-FT. CARSON	08	CO	FT. CARSON	80913	HOSP	A	0032
0037	WALTER REED AMC-WASHINGTON DC	01	DC	WASHINGTON	20307	HOSP	A	0037
0047	EISENHOWER AMC-FT. GORDON	03	GA	FT. GORDON	30905	HOSP	A	0047
0048	MARTIN ACH-FT. BENNING	03	GA	FT. BENNING	31905	HOSP	A	0048
0049	WINN ACH-FT. STEWART	03	GA	FT. STEWART	31314	HOSP	A	0049
0606	HEIDELBERG MEDDAC	13	GE	HEIDELBERG	09102	HOSP	A	0606
0607	LANDSTUHL REGIONAL MEDCEN	13	GE	HEIDELBERG	09102	HOSP	A	0607
0609	WUERZBURG MEDDAC	13	GE	WUERZBURG	09036	HOSP	A	0609
0052	TRIPLER AMC-FT SHAFTER	12	HI	HONOLULU	96859	HOSP	A	0052
0612	121st GEN HOSP-SEOUL	14	KO			HOSP	A	0612
0057	IRWIN ACH-FT. RILEY	08	KS	FT. RILEY	66442	HOSP	A	0057
0060	BLANCHFIELD ACH-FT. CAMPBELL	05	KY	FT. CAMPBELL	42223	HOSP	A	0060
0061	IRELAND ACH-FT. KNOX	05	KY	FT. KNOX	40121	HOSP	A	0061
0064	BAYNE-JONES ACH-FT. POLK	06	LA	FT. POLK	71459	HOSP	A	0064
0075	L. WOOD ACH-FT. LEONARD WOOD	08	MO	FT. LEONARD WOOD	65473	HOSP	A	0075
0089	WOMACK AMC-FT. BRAGG	02	NC	FT. BRAGG	28307	HOSP	A	0089
0086	KELLER ACH-WEST POINT	01	NY	WEST POINT	10996	HOSP	A	0086
0098	REYNOLDS ACH-FT. SILL	06	OK	FT. SILL	73503	HOSP	A	0098
0105	MONCRIEF ACH-FT. JACKSON	03	SC	FT. JACKSON	29207	HOSP	A	0105
0108	WILLIAM BEAUMONT AMC-FT. BLISS	07	TX	FT. BLISS	79920	HOSP	A	0108
0109	BROOKE AMC-FT. SAM HOUSTON	06	TX	FT. SAM HOUSTON	78234	HOSP	A	0109
0110	DARNALL ACH-FT. HOOD	06	TX	FT. HOOD	76544	HOSP	A	0110
0121	MCDONALD ACH-FT. EUSTIS	02	VA	FT. EUSTIS	23604	HOSP	A	0121
0123	DEWITT ACH-FT. BELVOIR	01	VA	FT. BELVOIR	22060	HOSP	A	0123
0125	MADIGAN AMC-FT. LEWIS	11	WA	FT. LEWIS	98433	HOSP	A	0125
0006	3rd MED GRP-ELMENDORF	12	AK	ANCHORAGE	99506	HOSP	F	0006
0009	56th MED GRP-LUKE	07	AZ	PHOENIX	85309	HOSP	F	0009
0014	60th MED GRP-TRAVIS	10	CA	FAIRFIELD	94535	HOSP	F	0014
0033	10th MED GROUP-USAF ACADEMY CO	08	CO	COLORADO SPRINGS	80840	HOSP	F	0033
0042	96th MED GRP-EGLIN	04	FL	VALPARAISO	32542	HOSP	F	0042
0045	6th MED GRP-MACDILL	03	FL	TAMPA	33608	HOSP	F	0045
0805	52nd MED GROUP-SPANGDAHLEM	13	GE	SPANGDAHLEM	09126	HOSP	F	0805
0053	366th MED GRP-MOUNTAIN HOME	08	ID	MOUNTAIN HOME	83648	HOSP	F	0053
0055	375th MED GRP-SCOTT	05	IL	BELLEVILLE	62225	HOSP	F	0055
0808	31st MED GRP-AVIANO	13	IT	AVIANO	09601	HOSP	F	0808

List of Facilities for Selection

DMISID	FACILITY NAME	REGION	STATE/COUNTRY	CITY	ZIP CODE	FACILITY TYPE	SERVICE	RESP. DMIS
0639	35th MED GRP-MISAWA	14	JA	MISAWA CITY	96319	HOSP	F	0639
0640	374th MED GRP-YOKOTA AB	14	JA	TOKYO	96328	HOSP	F	0640
0638	51st MED GRP-OSAN AB	14	KO	SONG TAN	96278	HOSP	F	0638
0066	89th MED GRP-ANDREWS	01	MD	WASHINGTON D.C.	20331	HOSP	F	0066
0073	81st MED GRP-KEESLER	04	MS	BILOXI	39534	HOSP	F	0073
0093	319th MED GRP-GRAND FORKS	08	ND	GRAND FORKS	58205	HOSP	F	0093
0078	55th MED GRP-OFFUTT	08	NE	OMAHA	68113	HOSP	F	0078
0079	99th MED GRP- O'CALLAGHAN HOSP	07	NV	LAS VEGAS	89191	HOSP	F	0079
0095	74th MED GRP-WRIGHT-PATTERSON	05	OH	FAIRBORN	45433	HOSP	F	0095
0101	20th MED GRP-SHAW	03	SC	SUMTER	29152	HOSP	F	0101
0635	39th MED GRP-INCIRLIK	13	TU	INCIRLIK		HOSP	F	0635
0113	82nd MED GRP-SHEPPARD	06	TX	WICHITA FALLS	76311	HOSP	F	0113
0117	59th MED WING-LACKLAND	06	TX	SAN ANTONIO	78236	HOSP	F	0117
0633	48th MED GRP-LAKENHEATH	13	UK	LAKENHEATH	09179	HOSP	F	0633
0120	1st MED GRP-LANGLEY	02	VA	HAMPTON	23665	HOSP	F	0120
0024	NH CAMP PENDLETON	09	CA	CAMP PENDLETON	92055	HOSP	N	0024
0028	NH LEMOORE	10	CA	LEMOORE	93245	HOSP	N	0028
0029	NMC SAN DIEGO	09	CA	SAN DIEGO	92134	HOSP	N	0029
0030	NH TWENTYNINE PALMS	09	CA	TWENTYNINE PALMS	92278	HOSP	N	0030
0038	NH PENSACOLA	04	FL	PENSACOLA	32512	HOSP	N	0038
0039	NH JACKSONVILLE	03	FL	JACKSONVILLE	32214	HOSP	N	0039
0056	NH GREAT LAKES	05	IL	GREAT LAKES	60088	HOSP	N	0056
0067	NNMC BETHESDA	01	MD	BETHESDA	20814	HOSP	N	0067
0091	NH CAMP LEJEUNE	02	NC	CAMP LEJEUNE	28542	HOSP	N	0091
0092	NH CHERRY POINT	02	NC	CHERRY POINT	28533	HOSP	N	0092
0103	NH CHARLESTON	03	SC	CHARLESTON	29408	HOSP	N	0103
0104	NH BEAUFORT	03	SC	BEAUFORT	29902	HOSP	N	0104
0124	NMC PORTSMOUTH	02	VA	PORTSMOUTH	23708	HOSP	N	0124
0126	NH BREMERTON	11	WA	BREMERTON	98312	HOSP	N	0126
0127	NH OAK HARBOR	11	WA	OAK HARBOR	98278	HOSP	N	0127
0615	NH GUANTANAMO BAY	15	CU	GUANTANAMO BAY	09593	HOSP	N	0615
0616	NH ROOSEVELT ROADS-CEIBA	03	PR	CEIBA	34051	HOSP	N	0616
0617	NH NAPLES	13	IT	NAPLES	09520	HOSP	N	0617
0618	NH ROTA	13	SP	ROTA	09539	HOSP	N	0618
0620	NH GUAM-AGANA	14	GU	AGANA	96630	HOSP	N	0620
0621	NH OKINAWA	14	JA	OKINAWA	96230	HOSP	N	0621
0622	NH YOKOSUKA	14	JA	YOKOSUKA	98762	HOSP	N	0622
0623	NH KEFLAVIK	13	IC	KEFLAVIK	09571	HOSP	N	0623
0624	NH SIGONELLA	13	IT	NAS SIGONELLA	09627	HOSP	N	0624

List of Facilities for Selection

Appendix D

DMISID	FACILITY NAME	REGION	STATE/COUNTRY	CITY	ZIP CODE	FACILITY TYPE	SERVICE	RESP. DMIS
	Total No. of Army Hospitals		28 (24 CONUS/4 OCONUS)					
	Total No. of Air Force Hospitals		25 (18 CONUS/7 OCONUS)					
	Total No. of Navy Hospitals		24 (15 CONUS/9 OCONUS)					
	G.Total		**77 (57 CONUS/20 OCONUS)**					

Selected MTFs

Appendix E

DMISID	FACILITY NAME	STATE/COUNTRY	CITY	FACILITY TYPE	SERVICE
0005	BASSETT ACH-FT. WAINWRIGHT	AK	FT. WAINWRIGHT	HOSP	A
0131	WEED ACH-FT. IRWIN	CA	FT. IRWIN	HOSP	A
0047	EISENHOWER AMC-FT. GORDON	GA	FT. GORDON	HOSP	A
0049	WINN ACH-FT. STEWART	GA	FT. STEWART	HOSP	A
0606	HEIDELBERG MEDDAC	GE	HEIDELBERG	HOSP	A
0607	LANDSTUHL REGIONAL MEDCEN	GE		HOSP	A
0609	WUERZBURG MEDDAC	GE	WUERZBURG	HOSP	A
0052	TRIPLER AMC-FT SHAFTER	HI	HONOLULU	HOSP	A
0057	IRWIN ACH-FT. RILEY	KS	FT. RILEY	HOSP	A
0064	BAYNE-JONES ACH-FT. POLK	LA	FT. POLK	HOSP	A
0075	L. WOOD ACH-FT. LEONARD WOOD	MO	FT. LEONARD WOOD	HOSP	A
0089	WOMACK AMC-FT. BRAGG	NC	FT. BRAGG	HOSP	A
0086	KELLER ACH-WEST POINT	NY	WEST POINT	HOSP	A
0098	REYNOLDS ACH-FT. SILL	OK	FT. SILL	HOSP	A
0109	BROOKE AMC-FT. SAM HOUSTON	TX	FT. SAM HOUSTON	HOSP	A
0110	DARNALL ACH-FT. HOOD	TX	FT. HOOD	HOSP	A
0123	DEWITT ACH-FT. BELVOIR	VA	FT. BELVOIR	HOSP	A
0125	MADIGAN AMC-FT. LEWIS	WA	FT. LEWIS	HOSP	A
0006	3rd MED GRP-ELMENDORF	AK	ANCHORAGE	HOSP	F
0014	60th MED GRP-TRAVIS	CA	FAIRFIELD	HOSP	F
0033	10th MED GROUP-USAF ACADEMY CO	CO	COLORADO SPRINGS	HOSP	F
0042	96th MED GRP-EGLIN	FL	VALPARAISO	HOSP	F
0805	52nd MED GROUP-SPANGDAHLEM	GE	SPANGDAHLEM	HOSP	F
0053	366th MED GRP-MOUNTAIN HOME	ID	MOUNTAIN HOME	HOSP	F
0055	375th MED GRP-SCOTT	IL	BELLEVILLE	HOSP	F
0808	31st MED GRP-AVIANO	IT	AVIANO	HOSP	F
0639	35th MED GRP-MISAWA	JA	MISAWA CITY	HOSP	F
0640	374th MED GRP-YOKOTA AB	JA	TOKYO	HOSP	F
0073	81st MED GRP-KEESLER	MS	BILOXI	HOSP	F
0093	319th MED GRP-GRAND FORKS	ND	GRAND FORKS	HOSP	F
0079	99th MED GRP- O'CALLAGHAN HOSP	NV	LAS VEGAS	HOSP	F
0095	74th MED GRP-WRIGHT-PATTERSON	OH	FAIRBORN	HOSP	F
0101	20th MED GRP-SHAW	SC	SUMTER	HOSP	F
0113	82nd MED GRP-SHEPPARD	TX	WICHITA FALLS	HOSP	F
0117	59th MED WING-LACKLAND	TX	SAN ANTONIO	HOSP	F
0028	NH LEMOORE	CA	LEMOORE	HOSP	N
0029	NMC SAN DIEGO	CA	SAN DIEGO	HOSP	N

Selected MTFs

DMISID	FACILITY NAME	STATE/ COUNTRY	CITY	FACILITY TYPE	SERVICE
0038	NH PENSACOLA	FL	PENSACOLA	HOSP	N
0039	NH JACKSONVILLE	FL	JACKSONVILLE	HOSP	N
0092	NH CHERRY POINT	NC	CHERRY POINT	HOSP	N
0103	NH CHARLESTON	SC	CHARLESTON	HOSP	N
0104	NH BEAUFORT	SC	BEAUFORT	HOSP	N
0127	NH OAK HARBOR	WA	OAK HARBOR	HOSP	N
0615	NH GUANTANAMO BAY	CU	GUANTANAMO BAY	HOSP	N
0616	NH ROOSEVELT ROADS-CEIBA	PR	CEIBA	HOSP	N
0618	NH ROTA	SP	ROTA	HOSP	N
0620	NH GUAM-AGANA	GU	AGANA	HOSP	N
0621	NH OKINAWA	JA	OKINAWA	HOSP	N
0622	NH YOKOSUKA	JA	YOKOSUKA	HOSP	N
0623	NH KEFLAVIK	IC	KEFLAVIK	HOSP	N
0624	NH SIGONELLA	IT	NAS SIGONELLA	HOSP	N

Total No. of Army Hospitals   (14 CONUS/4 OCONUS)
Total No. of Air Force Hospitals   (13 CONUS/4 OCONUS)
Total No. of Navy Hospitals   (8 CONUS/8 OCONUS)

Total   **(35 CONUS/16 OCONUS)**

Grand Total   51

Selected TRICARE Regions

Number	FACILITY NAME	STATE/ COUNTRY
2	Mid-Atlantic	VA
3	South-East	GA
4	Gulf-South	MS
6	South-West	TX
NA	TRICARE Central	CO
10	Golden Gate	CA
11	North-West	WA
NA	Latin America and Canada	GA
NA	TRICARE Europe	GE

Total Regions 9

MEMORANDUM FOR COMMANDER, MILITARY TREATMENT FACILITY

SUBJECT: Standard Metric Set

The TMA is developing a standard set of performance measures that will help the MHS assess how well we are meeting the healthcare needs of our military beneficiaries. These measures will promote a more uniform and consistent way of providing feedback to healthcare leaders at all levels of the Military Health System.

The attached questionnaire is designed to solicit your opinions about how metric sets are viewed and used within your organization. Your opinions will help us understand what features of a standard set are most likely to meet your needs for feedback on healthcare service delivery performance.

Please review the attached information paper, complete the questionnaire provided, and return in the enclosed envelope by January 26, 2001. I also ask that you forward copies of the attached questionnaire to your deputy for clinical services (senior physician), deputy for administration (senior administrator), and chief nurse and ask that they also complete this survey and return NLT January 26, 2001.

I thank you for your consideration of this survey. Please contact Major Alejandro Lopez-Duke at (703) 681-1730 for any questions regarding this survey.

H. James T. Sears, M.D.
Executive Director

Attachments:
1. Questionnaire
2. Information paper re. Standard Metric Sets

BACKGROUND INFORMATION

In the last five years, the numbers of metric or performance measurement sets have increased throughout the MHS. The Services, Health Affairs, and the TRICARE Management Activity (TMA) have created a variety of performance measurement sets to assist the regions and the Military Treatment Facilities (MTFs) in measuring everything from population health to financial viability. In an effort to streamline the process and possibly reduce duplication of effort, TMA is creating a standard metric set based on the following healthcare tenets, access, quality, and cost to include readiness and healthcare outcomes.

OBJECTIVES

This questionnaire is submitted for your consideration. The questionnaire is part of a Graduate Management Project (GMP) conducted by the resident, U.S. Army-Baylor University Masters Degree Program in Healthcare Administration. The responses will be kept confidential. They will be compiled and forwarded to the TMA Executive Director, Deputy Director, Chief of Staff, and Health Program Analysis and Evaluation. Three main goals to consider: 1) to elicit input from the MHS executive leadership, TRICARE regions, and the MTFs; 2) to compare differences in metric selection among services, facilities, regions, and healthcare specialties; and 3) to determine if any major gaps exist between this preliminary standard metric set and selected private sector organizations. ·

RESPONDENTS

1) MHS executive leadership
2) TRICARE Region Directors, Deputy Directors, and Operations Directors.
3) MTF command teams: Commander, Deputy Commander for Nursing (Chief Nurse), Deputy Commander for Clinical Services (Chief Physician) or Chief of Medical Staff, Deputy Commander for Administration (Chief Administrator).

METHODS

All data will be collected using a questionnaire. You are not required to travel, or prepare in advance. This questionnaire has specific aspects to it: 1) all responses are anonymous; 2) responses under the Likert scale will be compiled and presented in general terms; 3) open ended responses will be assembled under broad subject headings and recommendations will be presented anonimously; and 4) demographic data are included to conduct statistical analysis based on title, rank, service, profession, and organization.

HOW LONG WILL IT TAKE?

This is dependent on the amount of time you invest in answering the questions. The first and second parts (Likert scale) should take no longer than 30 minutes. The second section may take up to 10 minutes contingent on the amount of input you want to provide. A complete questionnaire is highly desired to insure TMA receives the best possible responses from the "field".

PERSONAL UTILITY OF RESULTS

By participating in this questionnaire you will play a part in assessing TMA's preliminary standard metric set. In addition, your comments will be reviewed and possibly incorporated in future performance measurement set implementation.

FOR WHAT WILL THE RESULTS BE USED?

Participation is voluntary, though highly encouraged. Compiled results will be used to assess the proposed standard set. In addition, the results will be incorporated into the student's GMP. Your feedback is instrumental in improving this metric set and its utility for possible use as a foundation for regional or MTF level performance measures.

FOR FUTHER INFORMATION CONTACT: Major Alejandro Lopez-Duke, (703) 681-1730

I. Purpose part II: To determine if the following perfomance indicators are applicable at
the MTF command team/executive level

Applicability is defined as, "is the measure useful for decision making at your level in the MTF?".
For example: If the results of a specific performance measure are pertinent at your management level,
rate it higher on the scale from 1 to 7 than one that is not.
Set is defined as, "a collection of performance measures or indicators".

II. Instructions: Please rate how applicable each performance measure is for the MTF leadership

Possible consideration for evaluation include:
1) Does the measure support management objectives based on MHS and Service
strategic plans, optimization plans, or other key management goals
2) Does the measure enhance (adequate information) decision making at your level
3) Will the measure allow you to make an informed decision
4) Do you consider the information provided by each measure important to
manage your organization more effectively and efficiently

III. Please annotate demographic information (circle choices):

Specialty/Profession: Physician/Dentist   Nurse   Administrator   Other

Service: Army   Navy   Air Force   Civilian

Rank: _____

Job Title: _____

IV. Question: Please rate each measure on the scale from least applicable to most applicable
for use at the MTF command/executive level

Please circle the number

Sample Scale: 1------2------3------4------5------6------7
                   Least Applicable   Most Applicable

Performance Measures

	Scale	Not sure
Bed days per 1000 Enrollees	1------2------3------4------5------6------7	0
Beneficiary Appeals per 1000 Claims	1------2------3------4------5------6------7	0
Beneficiary Grievances per 1000 Enrollees	1------2------3------4------5------6------7	0
Capital Costs per Member per Month	1------2------3------4------5------6------7	0
Claims Processed within 30 Days	1------2------3------4------5------6------7	0
Cost per Bedday	1------2------3------4------5------6------7	0
Cost per RWP (Relative Weighted Product)	1------2------3------4------5------6------7	0
Cost per Enrollee	1------2------3------4------5------6------7	0
Cost per Visit Weighted	1------2------3------4------5------6------7	0
% Beneficiary Satisfied with Customer Service	1------2------3------4------5------6------7	0
Dental Readiness (% Class 1 and 2)	1------2------3------4------5------6------7	0
Dental Wellness (% Class 1)	1------2------3------4------5------6------7	0
Direct Care Market Share - Inpatient workload	1------2------3------4------5------6------7	0

Sample Scale: 1------2------3------4------5------6------7

	Least Applicable	Most Applicable	Not sure
Direct Care Market Share - Outpatient workload	1------2------3------4------5------6------7		0
Dispositions per 1000 Enrollees	1------2------3------4------5------6------7		0
Ease of Making Appointment by Phone	1------2------3------4------5------6------7		0
Emergency Room Visits per 1000 Enrollees	1------2------3------4------5------6------7		0
% Eligibles Enrolled to MTF	1------2------3------4------5------6------7		0
Health Status (self reported on SF 12--mean score)	1------2------3------4------5------6------7		0
JCAHO Grid Scores	1------2------3------4------5------6------7		0
Laboratory Costs per Member per Month	1------2------3------4------5------6------7		0
Malpractice Claims Filed per 100 Physicians	1------2------3------4------5------6------7		0
Malpractice Claims Paid per 100 Physicians	1------2------3------4------5------6------7		0
MCSC Percent of Calls Answered within 2 minutes	1------2------3------4------5------6------7		0
MCSC Phones --- % of all lines busy	1------2------3------4------5------6------7		0
% Providers Medical Readiness Trained and Certified	1------2------3------4------5------6------7		0
MEPRS Completion Rate	1------2------3------4------5------6------7		0
Nurse FTE per Weighted Bed Day	1------2------3------4------5------6------7		0
Overall Satisfaction with Clinic Visit	1------2------3------4------5------6------7		0
Patient Satisfaction with Access	1------2------3------4------5------6------7		0
Patient Satisfaction with Waiting Times	1------2------3------4------5------6------7		0
Pharmacy Cost per Member per Month	1------2------3------4------5------6------7		0
Preventable Admission Rates for Prime Enrollees	1------2------3------4------5------6------7		0
Preventive Care Measures (ex. Pap smears, prostate)	1------2------3------4------5------6------7		0
Radiology Costs per Member per Month	1------2------3------4------5------6------7		0
RWPs per 1000 enrollees	1------2------3------4------5------6------7		0
SADR Completion Rate	1------2------3------4------5------6------7		0
Satisfaction with Access to Specialist	1------2------3------4------5------6------7		0
Satisfaction with Access to Healthcare	1------2------3------4------5------6------7		0
Satisfaction with Quality of Health Care	1------2------3------4------5------6------7		0
% of Enrollees Seen by their PCM	1------2------3------4------5------6------7		0
SIDR Completion Rate	1------2------3------4------5------6------7		0
% of AD Members with Temporary Medical Profiles	1------2------3------4------5------6------7		0
Visits per 1000 Weighted	1------2------3------4------5------6------7		0
Visits per Provider per Day	1------2------3------4------5------6------7		0
Wait Time at Appointment (30 minute standard)	1------2------3------4------5------6------7		0
Wait Time for Appointment (TRICARE standards)	1------2------3------4------5------6------7		0

Questionnaire
MTF Command Team

I. Purpose part III: To determine if there are any additonal performance measures/metrics
that should be included in a standard metric set

II. Instructions: Please list any performance measures you think should be included in
a MHS wide standard metric set

Possible criteria for selection:
1) does the measure support management objectives based on MHS and service specific
strategic plans, optimization plans, or other key management goals,
2) does the measure enhance (adequate information) decision making at your level,
3) will the measure allow you to make an informed decision,
4) do you consider the information provided by the measure important to
enable you to manage your organization more effectively and efficiently, and
5) is data readily available to build recommended performance measures/indicators

<u>**III. Question:**</u>

Are there other metrics or performance measures/indicators that were not reflected on the standard
set in part II?

If so, please list

_____

_____

_____

_____

_____

Executive Level Questionnaire

I. Purpose of questionnaire: To determine perfomance indicators for an executive level metric set

Applicability is defined as: "is the measure useful for decision making at your level in the MHS?".
For example: If the results of a specific performance measure are pertinent at the executive level, rate it higher on the scale from 1 to 7 than one that is not.

II. Instructions: Rate how applicable each performance measure is for inclusion into an executive level metric set.

Possible considerations for evaluation include:
A) Does the measure support management objectives based on MHS and Service strategic plans, optimization plans, or other key corporate goals,
B) Does the measure enhance (adequate information) decision making at the executive level.
C) Will the measure allow the executive to make an informed decision,
D) Does the executive consider the information provided by each measure important to make strategic level enterprise wide decisions.

III. Please annotate demographic information (circle choices):

Specialty/Profession: Physician/Dentist   Nurse   Administrator   Other

Service: Army   Navy   Air Force   Civilian

Rank: _____

Job Title: _____

IV. Question: Please rate each measure on the scale from least applicable to most applicable for inclusion in an executive level metric set

Please circle the number

Sample Scale: 1------2------3------4------5------6------7
                       Least Applicable   Most Applicable

Performance Measures

		Not sure
Bed days per 1000 Enrollees	1------2------3------4------5------6------7	0
Beneficiary Appeals per 1000 Claims	1------2------3------4------5------6------7	0
Beneficiary Grievances per 1000 Enrollees	1------2------3------4------5------6------7	0
Capital Costs per Member per Month	1------2------3------4------5------6------7	0
Claims Processed within 30 Days	1------2------3------4------5------6------7	0
Cost per Bedday	1------2------3------4------5------6------7	0
Cost per RWP (Relative Weighted Product)	1------2------3------4------5------6------7	0
Cost per Enrollee	1------2------3------4------5------6------7	0
Cost per Visit Weighted	1------2------3------4------5------6------7	0
% Beneficiary Satisfied with Customer Service	1------2------3------4------5------6------7	0
Dental Readiness (% Class 1 and 2)	1------2------3------4------5------6------7	0
Dental Wellness (% Class 1)	1------2------3------4------5------6------7	0
Direct Care Market Share - Inpatient workload	1------2------3------4------5------6------7	0

Executive Level Questionnaire
Sample Scale: 1-----2-----3-----4-----5-----6-----7
                   Least Applicable   Most Applicable   Not sure

Direct Care Market Share - Outpatient workload	1-----2-----3-----4-----5-----6-----7	0
Dispositions per 1000 Enrollees	1-----2-----3-----4-----5-----6-----7	0
Ease of Making Appointment by Phone	1-----2-----3-----4-----5-----6-----7	0
Emergency Room Visits per 1000 Enrollees	1-----2-----3-----4-----5-----6-----7	0
% Eligibles Enrolled to MTF	1-----2-----3-----4-----5-----6-----7	0
Health Status (self reported on SF 12--mean score)	1-----2-----3-----4-----5-----6-----7	0
JCAHO Grid Scores	1-----2-----3-----4-----5-----6-----7	0
Laboratory Costs per Member per Month	1-----2-----3-----4-----5-----6-----7	0
Malpractice Claims Filed per 100 Physicians	1-----2-----3-----4-----5-----6-----7	0
Malpractice Claims Paid per 100 Physicians	1-----2-----3-----4-----5-----6-----7	0
MCSC Percent of Calls Answered within 2 minutes	1-----2-----3-----4-----5-----6-----7	0
MCSC Phones --- % of all lines busy	1-----2-----3-----4-----5-----6-----7	0
% Providers Medical Readiness Trained and Certified	1-----2-----3-----4-----5-----6-----7	0
MEPRS Completion Rate	1-----2-----3-----4-----5-----6-----7	0
Nurse FTE per Weighted Bed Day	1-----2-----3-----4-----5-----6-----7	0
Overall Satisfaction with Clinic Visit	1-----2-----3-----4-----5-----6-----7	0
Patient Satisfaction with Access	1-----2-----3-----4-----5-----6-----7	0
Patient Satisfaction with Waiting Times	1-----2-----3-----4-----5-----6-----7	0
Pharmacy Cost per Member per Month	1-----2-----3-----4-----5-----6-----7	0
Preventable Admission Rates for Prime Enrollees	1-----2-----3-----4-----5-----6-----7	0
Preventive Care Measures (ex. Pap smears, prostate)	1-----2-----3-----4-----5-----6-----7	0
Radiology Costs per Member per Month	1-----2-----3-----4-----5-----6-----7	0
RWPs per 1000 enrollees	1-----2-----3-----4-----5-----6-----7	0
SADR Completion Rate	1-----2-----3-----4-----5-----6-----7	0
Satisfaction with Access to Specialist	1-----2-----3-----4-----5-----6-----7	0
Satisfaction with Access to Healthcare	1-----2-----3-----4-----5-----6-----7	0
Satisfaction with Quality of Health Care	1-----2-----3-----4-----5-----6-----7	0
% of Enrollees Seen by their PCM	1-----2-----3-----4-----5-----6-----7	0
SIDR Completion Rate	1-----2-----3-----4-----5-----6-----7	0
% of AD Members with Temporary Medical Profiles	1-----2-----3-----4-----5-----6-----7	0
Visits per 1000 Weighted	1-----2-----3-----4-----5-----6-----7	0
Visits per Provider per Day	1-----2-----3-----4-----5-----6-----7	0
Wait Time at Appointment (30 minute standard)	1-----2-----3-----4-----5-----6-----7	0
Wait Time for Appointment (TRICARE standards)	1-----2-----3-----4-----5-----6-----7	0

Questionnaire
MHS Executives

I. Purpose part II: To determine if there are any additonal performance measures/metrics
that should be included in a standard metric set

II. Instructions: Please list any performance measures you think should be included in
a MHS wide standard metric set

Possible criteria for selection:
1) does the measure support management objectives based on MHS and service specific
strategic plans, optimization plans, or other key management goals,
2) does the measure enhance (adequate information) decision making at your level,
3) will the measure allow you to make an informed decision,
4) do you consider the information provided by the measure important to
enable you to manage your organization more effectively and efficiently, and
5) is data readily available to build recommended performance measures/indicators

III. Question:

Are there other metrics or performance measures/indicators that were not reflected on the standard
set in part I?

If so, please list

_____

_____

_____

_____

_____

Appendix J

Operational Definition of Variables

Independent Variable:	Defined as:
Services	Army, Navy, Air Force
Profession	Physician, Administrator, Nurse
Level of Command	Executive, Region, MTF

Dependent:	Defined as:
47 Performance Measures	See appendix C
13 Questions	Topic areas follow:

1. Services should review existing sets
2. Too many sets in MHS
3. I am aware of corporate management objectives in MHS strategic plan
4. I am aware of service specific strategic goal
5. Sets are tied (mapped) to management objectives
6. Performance measures help organizations achieve strategic goals
7. The standard metric set support enterprise wide strategic goals
8. The standard metric set support service specific strategic goals
9. Metric sets are best prepared under a single proponent
10. Standard metric set should be implemented in the MHS
11. Standard methodology to calculate performance measures should exist
12. The standard metric set should be the template for other service sets
13. The standard metric set represents a balance approach to metric selection

Univariate Analysis of Variance

Between-Subjects Factors

		N
SERVICE	1	33
	2	27
	3	44
LEVELCMD	1	89
	2	15
PROFESN	1	34
	2	29
	3	41

Descriptive Statistics

Dependent Variable: MAPPED

SERVICE	LEVELCMD	PROFESN	Mean	Std. Deviation	N
1	1	1	4.20	1.48	10
		2	3.63	1.19	8
		3	4.11	1.45	9
		Total	4.00	1.36	27
	2	1	2.00	.	1
		2	6.00	.	1
		3	2.25	.96	4
		Total	2.83	1.72	6
	Total	1	4.00	1.55	11
		2	3.89	1.36	9
		3	3.54	1.56	13
		Total	3.79	1.47	33
2	1	1	4.50	1.31	8
		2	4.50	1.31	8
		3	4.89	1.27	9
		Total	4.64	1.25	25
	2	3	3.00	.00	2
		Total	3.00	.00	2
	Total	1	4.50	1.31	8
		2	4.50	1.31	8
		3	4.55	1.37	11
		Total	4.52	1.28	27
3	1	1	4.79	1.05	14
		2	4.67	1.30	12
		3	4.18	1.17	11
		Total	4.57	1.17	37
	2	1	3.00	.	1
		3	4.50	1.38	6
		Total	4.29	1.38	7
	Total	1	4.67	1.11	15
		2	4.67	1.30	12
		3	4.29	1.21	17
		Total	4.52	1.19	44
Total	1	1	4.53	1.24	32
		2	4.32	1.31	28
		3	4.38	1.29	29
		Total	4.42	1.27	89
	2	1	2.50	.71	2
		2	6.00	.	1
		3	3.50	1.51	12
		Total	3.53	1.55	15
	Total	1	4.41	1.31	34
		2	4.38	1.32	29
		3	4.12	1.40	41
		Total	4.29	1.34	104

Tests of Between-Subjects Effects

Dependent Variable: MAPPED

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	43.183[a]	14	3.085	1.931	.033
Intercept	442.883	1	442.883	277.264	.000
SERVICE	8.263	2	4.132	2.587	.081
LEVELCMD	2.171	1	2.171	1.359	.247
PROFESN	9.555	2	4.778	2.991	.055
SERVICE * LEVELCMD	4.187	2	2.094	1.311	.275
SERVICE * PROFESN	3.523	4	.881	.551	.698
LEVELCMD * PROFESN	13.700	2	6.850	4.288	.017
SERVICE * LEVELCMD * PROFESN	1.117	1	1.117	.699	.405
Error	142.163	89	1.597		
Total	2098.000	104			
Corrected Total	185.346	103			

a. R Squared = .233 (Adjusted R Squared = .112)

Profile Plots

PROFESN * LEVELCMD * SERVICE

Estimated Marginal Means of MAPPED

At SERVICE = 1
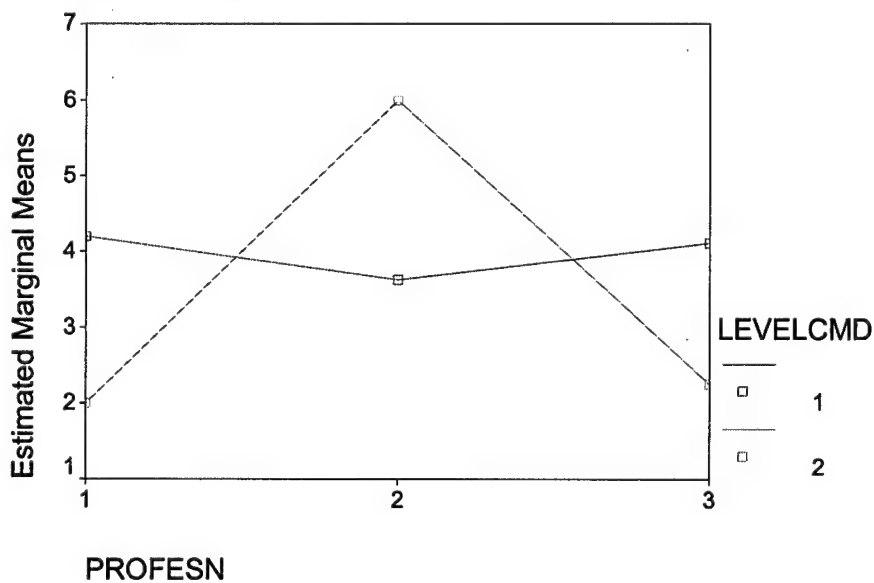
Estimated Marginal Means of MAPPED

At SERVICE = 2
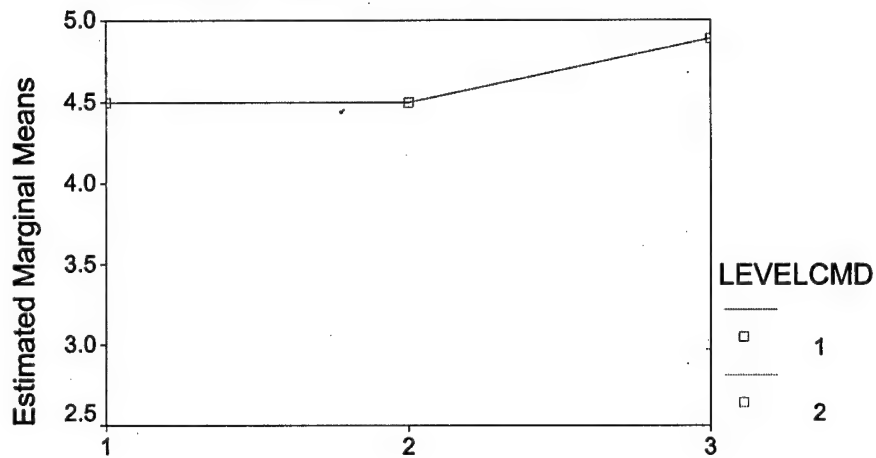
Estimated Marginal Means

PROFESN

Non-estimable means are not plotted

Estimated Marginal Means of MAPPED

At SERVICE = 3

Estimated Marginal Means
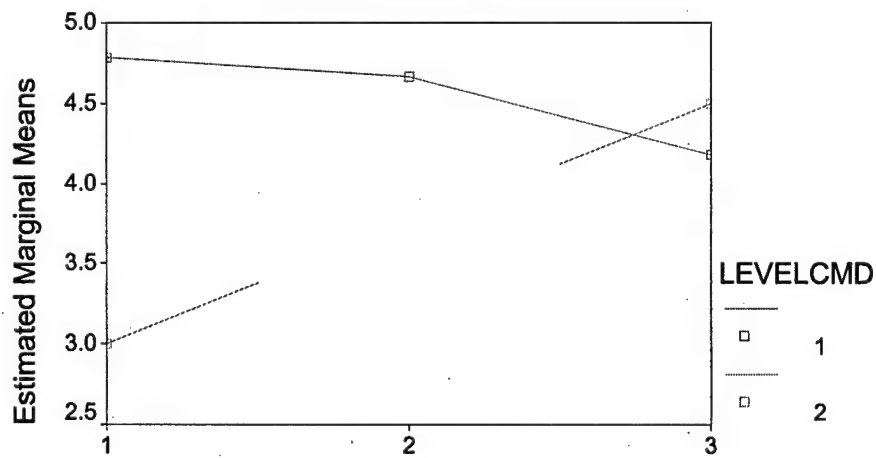
PROFESN

Non-estimable means are not plotted

Univariate Analysis of Variance

Warnings

Post hoc tests are not performed for LEVELCMD because there are fewer than three groups.

Between-Subjects Factors

		N
SERVICE	1	33
	2	27
	3	44
LEVELCMD	1	89
	2	15
PROFESN	1	34
	2	29
	3	41

Tests of Between-Subjects Effects

Dependent Variable: MAPPED

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	43.183[a]	14	3.085	1.931	.033
Intercept	442.883	1	442.883	277.264	.000
SERVICE	8.263	2	4.132	2.587	.081
LEVELCMD	2.171	1	2.171	1.359	.247
PROFESN	9.555	2	4.778	2.991	.055
SERVICE * LEVELCMD	4.187	2	2.094	1.311	.275
SERVICE * PROFESN	3.523	4	.881	.551	.698
LEVELCMD * PROFESN	13.700	2	6.850	4.288	.017
SERVICE * LEVELCMD * PROFESN	1.117	1	1.117	.699	.405
Error	142.163	89	1.597		
Total	2098.000	104			
Corrected Total	185.346	103			

a. R Squared = .233 (Adjusted R Squared = .112)

Post Hoc Tests

SERVICE

Multiple Comparisons

Dependent Variable: MAPPED
Tukey HSD

(I) SERVICE	(J) SERVICE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-.73	.33	.072	-1.51	5.11E-02
	3	-.73*	.29	.035	-1.43	-4.11E-02
2	1	.73	.33	.072	-5.11E-02	1.51
	3	-4.21E-03	.31	1.000	-.74	.73
3	1	.73*	.29	.035	4.11E-02	1.43
	2	4.21E-03	.31	1.000	-.73	.74

Based on observed means.

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

MAPPED

Tukey HSD[a,b,c]

SERVICE	N	Subset
		1
1	33	3.79
2	27	4.52
3	44	4.52
Sig.		.051

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 1.597.

a. Uses Harmonic Mean Sample Size = 33.308.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

PROFESN

Multiple Comparisons

Dependent Variable: MAPPED
Tukey HSD

(I) PROFESN	(J) PROFESN	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	3.25E-02	.32	.994	-.73	.79
	3	.29	.29	.586	-.41	.99
2	1	-3.25E-02	.32	.994	-.79	.73
	3	.26	.31	.680	-.47	.99
3	1	-.29	.29	.586	-.99	.41
	2	-.26	.31	.680	-.99	.47

Based on observed means.

Homogeneous Subsets

MAPPED

Tukey HSD[a,b,c]

PROFESN	N	Subset 1
3	41	4.12
2	29	4.38
1	34	4.41
Sig.		.613

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 1.597.

a. Uses Harmonic Mean Sample Size = 33.981.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Univariate Analysis of Variance

Between-Subjects Factors

		N
SERVICE	1	34
	2	26
	3	46
LEVLCMD	1	85
	2	17
	3	4
PROFSION	1	38
	2	27
	3	41

Descriptive Statistics

Dependent Variable: PROFILES

SERVICE	LEVLCMD	PROFSION	Mean	Std. Deviation	N
1	1	1	3.80	2.10	10
		2	6.13	.64	8
		3	4.00	2.06	9
		Total	4.56	2.01	27
	2	1	7.00	.	1
		2	3.00	.	1
		3	3.00	2.83	4
		Total	3.67	2.73	6
	3	1	2.00	.	1
		Total	2.00	.	1
	Total	1	3.92	2.19	12
		2	5.78	1.20	9
		3	3.69	2.25	13
		Total	4.32	2.14	34
2	1	1	4.57	1.40	7
		2	3.71	1.98	7
		3	3.43	.98	7
		Total	3.90	1.51	21
	2	3	4.67	1.15	3
		Total	4.67	1.15	3
	3	1	4.00	1.41	2
		Total	4.00	1.41	2
	Total	1	4.44	1.33	9
		2	3.71	1.98	7
		3	3.80	1.14	10
		Total	4.00	1.44	26
3	1	1	4.33	1.11	15
		2	4.91	1.81	11
		3	4.55	1.86	11
		Total	4.57	1.56	37
	2	1	4.00	.	1
		3	5.00	1.83	7
		Total	4.88	1.73	8
	3	1	5.00	.	1
		Total	5.00	.	1
	Total	1	4.35	1.06	17
		2	4.91	1.81	11
		3	4.72	1.81	18
		Total	4.63	1.55	46
Total	1	1	4.22	1.52	32
		2	4.96	1.80	26
		3	4.07	1.75	27
		Total	4.40	1.71	85
	2	1	5.50	2.12	2
		2	3.00	.	1
		3	4.36	2.10	14
		Total	4.41	2.03	17
	3	1	3.75	1.50	4
		Total	3.75	1.50	4
	Total	1	4.24	1.53	38
		2	4.89	1.80	27
		3	4.17	1.86	41
		Total	4.38	1.74	106

Tests of Between-Subjects Effects

Dependent Variable: PROFILES

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	67.937[a]	17	3.996	1.401	.155
Intercept	477.048	1	477.048	167.273	.000
SERVICE	1.880	2	.940	.330	.720
LEVLCMD	5.163	2	2.582	.905	.408
PROFSION	6.026	2	3.013	1.057	.352
SERVICE * LEVLCMD	10.909	4	2.727	.956	.436
SERVICE * PROFSION	31.787	4	7.947	2.786	.031
LEVLCMD * PROFSION	14.072	2	7.036	2.467	.091
SERVICE * LEVLCMD * PROFSION	9.009	1	9.009	3.159	.079
Error	250.969	88	2.852		
Total	2350.000	106			
Corrected Total	318.906	105			

a. R Squared = .213 (Adjusted R Squared = .061)

Profile Plots

PROFSION * LEVLCMD * SERVICE

Estimated Marginal Means of PROFILES

At SERVICE =   1
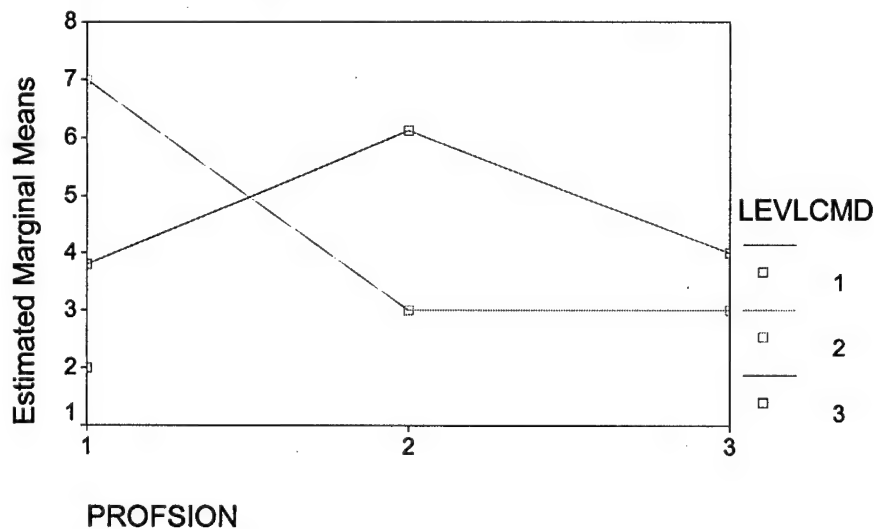
Non-estimable means are not plotted

Estimated Marginal Means of PROFILES

At SERVICE = 2

PROFSION

Non-estimable means are not plotted

Estimated Marginal Means of PROFILES

At SERVICE = 3
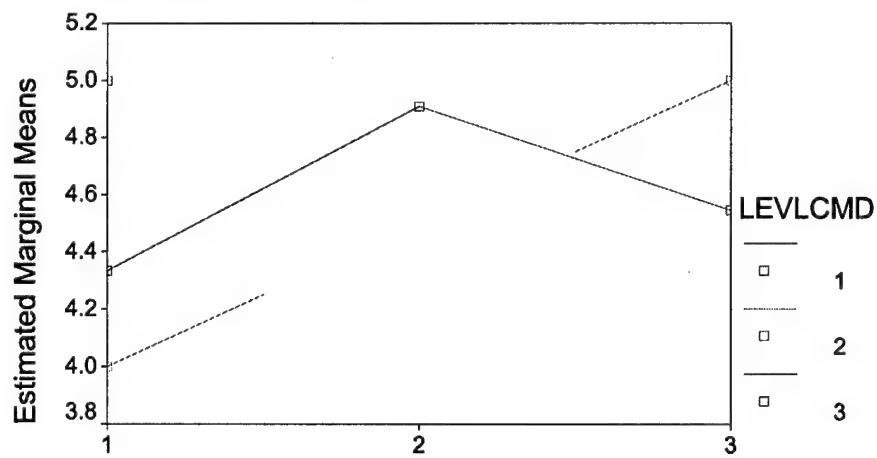
PROFSION

Non-estimable means are not plotted

Univariate Analysis of Variance

Between-Subjects Factors

		N
SERVICE	1	25
	2	24
	3	33
LEVLCMD	1	63
	2	15
	3	4
PROFSION	1	29
	2	15
	3	38

Descriptive Statistics

Dependent Variable: RWPENROL

SERVICE	LEVLCMD	PROFSION	Mean	Std. Deviation	N
1	1	1	4.50	1.38	6
		2	5.60	1.34	5
		3	4.50	1.60	8
		Total	4.79	1.47	19
	2	1	6.00	.	1
		3	3.25	2.06	4
		Total	3.80	2.17	5
	3	1	6.00	.	1
		Total	6.00	.	1
	Total	1	4.88	1.36	8
		2	5.60	1.34	5
		3	4.08	1.78	12
		Total	4.64	1.63	25
2	1	1	4.86	1.21	7
		2	6.00	1.00	5
		3	4.57	1.72	7
		Total	5.05	1.43	19
	2	3	4.67	.58	3
		Total	4.67	.58	3
	3	1	6.00	1.41	2
		Total	6.00	1.41	2
	Total	1	5.11	1.27	9
		2	6.00	1.00	5
		3	4.60	1.43	10
		Total	5.08	1.35	24
3	1	1	4.10	1.66	10
		2	5.40	.55	5
		3	3.60	2.17	10
		Total	4.16	1.82	25
	2	1	6.00	.	1
		3	5.00	.89	6
		Total	5.14	.90	7
	3	1	6.00	.	1
		Total	6.00	.	1
	Total	1	4.42	1.68	12
		2	5.40	.55	5
		3	4.13	1.89	16
		Total	4.42	1.70	33
Total	1	1	4.43	1.44	23
		2	5.67	.98	15
		3	4.16	1.86	25
		Total	4.62	1.63	63
	2	1	6.00	.00	2
		3	4.38	1.45	13
		Total	4.60	1.45	15
	3	1	6.00	.82	4
		Total	6.00	.82	4
	Total	1	4.76	1.46	29
		2	5.67	.98	15
		3	4.24	1.72	38
		Total	4.68	1.59	82

Tests of Between-Subjects Effects

Dependent Variable: RWPENROL

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	50.568[a]	16	3.161	1.341	.201
Intercept	878.855	1	878.855	372.911	.000
SERVICE	1.267	2	.633	.269	.765
LEVLCMD	9.105	2	4.553	1.932	.153
PROFSION	26.163	2	13.081	5.551	.006
SERVICE * LEVLCMD	4.037	4	1.009	.428	.788
SERVICE * PROFSION	.926	4	.232	.098	.983
LEVLCMD * PROFSION	3.632	1	3.632	1.541	.219
SERVICE * LEVLCMD * PROFSION	1.741	1	1.741	.739	.393
Error	153.188	65	2.357		
Total	2002.000	82			
Corrected Total	203.756	81			

a. R Squared = .248 (Adjusted R Squared = .063)

Profile Plots

PROFSION * LEVLCMD * SERVICE

Estimated Marginal Means of RWPENROL

At SERVICE =   1
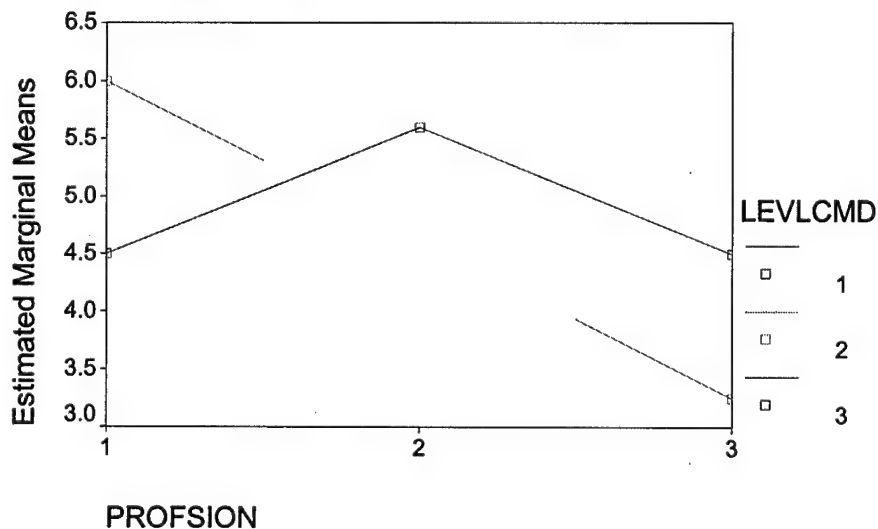
PROFSION

Non-estimable means are not plotted

Estimated Marginal Means of RWPENROL

At SERVICE =   2

Estimated Marginal Means

PROFSION

Non-estimable means are not plotted

Estimated Marginal Means of RWPENROL

At SERVICE =   3

Estimated Marginal Means

PROFSION

Non-estimable means are not plotted

Univariate Analysis of Variance

Between-Subjects Factors

		N
SERVICE	1	32
	2	28
	3	43
LEVLCMD	1	83
	2	16
	3	4
PROFSION	1	38
	2	25
	3	40

Descriptive Statistics

Dependent Variable: MCSPHONE

SERVICE	LEVLCMD	PROFSION	Mean	Std. Deviation	N
1	1	1	5.00	1.63	10
		2	5.29	1.70	7
		3	5.38	.74	8
		Total	5.20	1.38	25
	2	1	6.00	.	1
		2	4.00	.	1
		3	4.75	1.50	4
		Total	4.83	1.33	6
	3	1	4.00	.	1
		Total	4.00	.	1
	Total	1	5.00	1.54	12
		2	5.13	1.64	8
		3	5.17	1.03	12
		Total	5.09	1.35	32
2	1	1	5.38	1.41	8
		2	4.14	1.95	7
		3	4.63	1.19	8
		Total	4.74	1.54	23
	2	3	6.00	1.00	3
		Total	6.00	1.00	3
	3	1	2.00	1.41	2
		Total	2.00	1.41	2
	Total	1	4.70	1.95	10
		2	4.14	1.95	7
		3	5.00	1.26	11
		Total	4.68	1.68	28
3	1	1	4.07	1.38	14
		2	5.20	1.48	10
		3	4.73	1.49	11
		Total	4.60	1.48	35
	2	1	6.00	.	1
		3	5.00	1.79	6
		Total	5.14	1.68	7
	3	1	6.00	.	1
		Total	6.00	.	1
	Total	1	4.31	1.45	16
		2	5.20	1.48	10
		3	4.82	1.55	17
		Total	4.72	1.50	43
Total	1	1	4.69	1.53	32
		2	4.92	1.69	24
		3	4.89	1.22	27
		Total	4.82	1.47	83
	2	1	6.00	.00	2
		2	4.00	.	1
		3	5.15	1.52	13
		Total	5.19	1.42	16
	3	1	3.50	2.08	4
		Total	3.50	2.08	4
	Total	1	4.63	1.60	38
		2	4.88	1.67	25
		3	4.97	1.31	40
		Total	4.83	1.50	103

Tests of Between-Subjects Effects

Dependent Variable: MCSPHONE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	45.483ª	17	2.675	1.227	.262
Intercept	632.991	1	632.991	290.251	.000
SERVICE	5.236	2	2.618	1.201	.306
LEVLCMD	4.349	2	2.174	.997	.373
PROFSION	2.872	2	1.436	.658	.520
SERVICE * LEVLCMD	21.738	4	5.435	2.492	.049
SERVICE * PROFSION	12.908	4	3.227	1.480	.216
LEVLCMD * PROFSION	4.590	2	2.295	1.052	.354
SERVICE * LEVLCMD * PROFSION	3.393E-04	1	3.393E-04	.000	.990
Error	185.371	85	2.181		
Total	2629.000	103			
Corrected Total	230.854	102			

a. R Squared = .197 (Adjusted R Squared = .036)

Profile Plots

PROFSION * LEVLCMD * SERVICE

Estimated Marginal Means of MCSPHONE

At SERVICE = 1
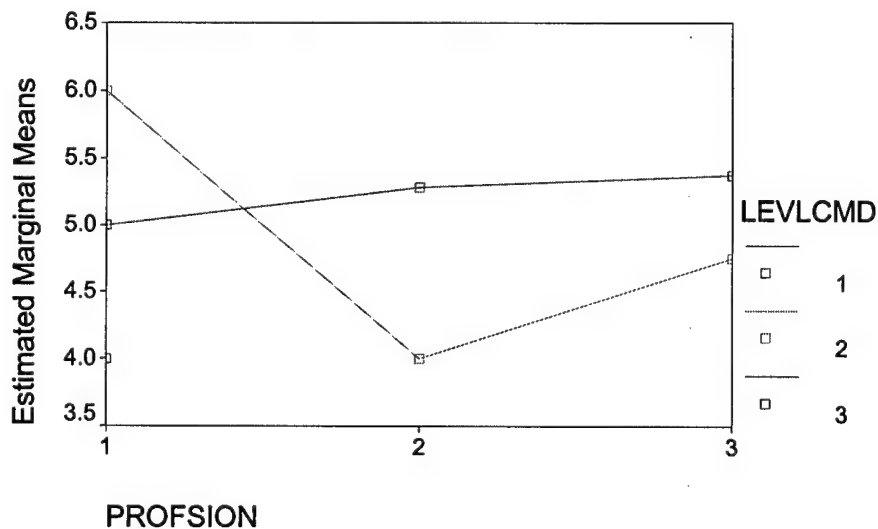
Non-estimable means are not plotted

Estimated Marginal Means of MCSPHONE

At SERVICE =   2

PROFSION

Non-estimable means are not plotted

Estimated Marginal Means of MCSPHONE

At SERVICE =   3
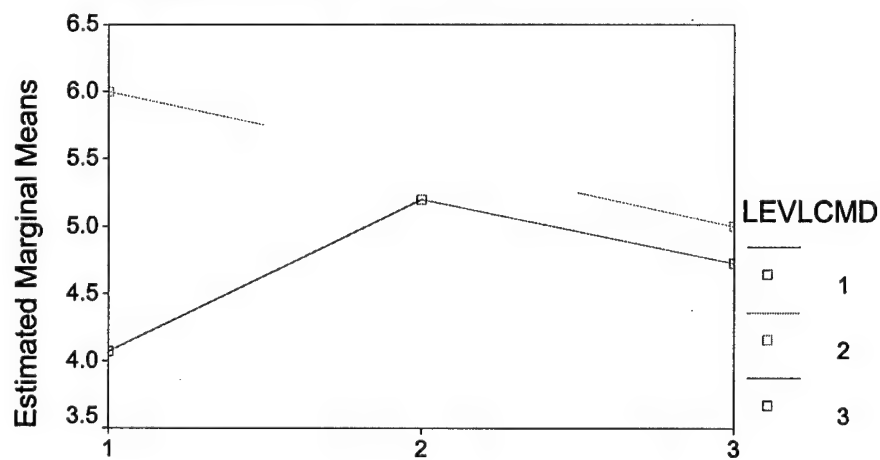
PROFSION

Non-estimable means are not plotted

Univariate Analysis of Variance

Between-Subjects Factors

		N
SERVICE	1	34
	2	31
	3	46
LEVLCMD	1	89
	2	17
	3	5
PROFSION	1	40
	2	28
	3	43

Descriptive Statistics

Dependent Variable: MALPRCFL

SERVICE	LEVLCMD	PROFSION	Mean	Std. Deviation	N
1	1	1	4.10	1.73	10
		2	6.00	.76	8
		3	3.00	1.94	9
		Total	4.30	1.96	27
	2	1	5.00	.	1
		2	4.00	.	1
		3	3.00	1.83	4
		Total	3.50	1.64	6
	3	1	3.00	.	1
		Total	3.00	.	1
	Total	1	4.08	1.62	12
		2	5.78	.97	9
		3	3.00	1.83	13
		Total	4.12	1.89	34
2	1	1	4.75	1.39	8
		2	3.63	1.51	8
		3	4.33	1.41	9
		Total	4.24	1.45	25
	2	3	4.33	1.53	3
		Total	4.33	1.53	3
	3	1	3.67	3.06	3
		Total	3.67	3.06	3
	Total	1	4.45	1.86	11
		2	3.63	1.51	8
		3	4.33	1.37	12
		Total	4.19	1.58	31
3	1	1	3.60	2.13	15
		2	5.09	1.76	11
		3	3.45	1.75	11
		Total	4.00	2.00	37
	2	1	5.00	.	1
		3	3.29	1.25	7
		Total	3.50	1.31	8
	3	1	3.00	.	1
		Total	3.00	.	1
	Total	1	3.65	2.03	17
		2	5.09	1.76	11
		3	3.39	1.54	18
		Total	3.89	1.88	46
Total	1	1	4.03	1.86	33
		2	4.93	1.69	27
		3	3.59	1.74	29
		Total	4.16	1.83	89
	2	1	5.00	.00	2
		2	4.00	.	1
		3	3.43	1.45	14
		Total	3.65	1.41	17
	3	1	3.40	2.19	5
		Total	3.40	2.19	5
	Total	1	4.00	1.85	40
		2	4.89	1.66	28
		3	3.53	1.64	43
		Total	4.05	1.79	111

Tests of Between-Subjects Effects

Dependent Variable: MALPRCFL

| Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	78.502[a]	17	4.618	1.566	.090
Intercept	450.642	1	450.642	152.803	.000
SERVICE	.692	2	.346	.117	.889
LEVLCMD	6.388	2	3.194	1.083	.343
PROFSION	10.798	2	5.399	1.831	.166
SERVICE * LEVLCMD	.163	4	4.078E-02	.014	1.000
SERVICE * PROFSION	34.716	4	8.679	2.943	.024
LEVLCMD * PROFSION	5.326	2	2.663	.903	.409
SERVICE * LEVLCMD * PROFSION	.162	1	.162	.055	.815
Error	274.273	93	2.949		
Total	2169.000	111			
Corrected Total	352.775	110			

a. R Squared = .223 (Adjusted R Squared = .080)

Profile Plots

PROFSION * LEVLCMD * SERVICE

Estimated Marginal Means of MALPRCFL

At SERVICE = 1
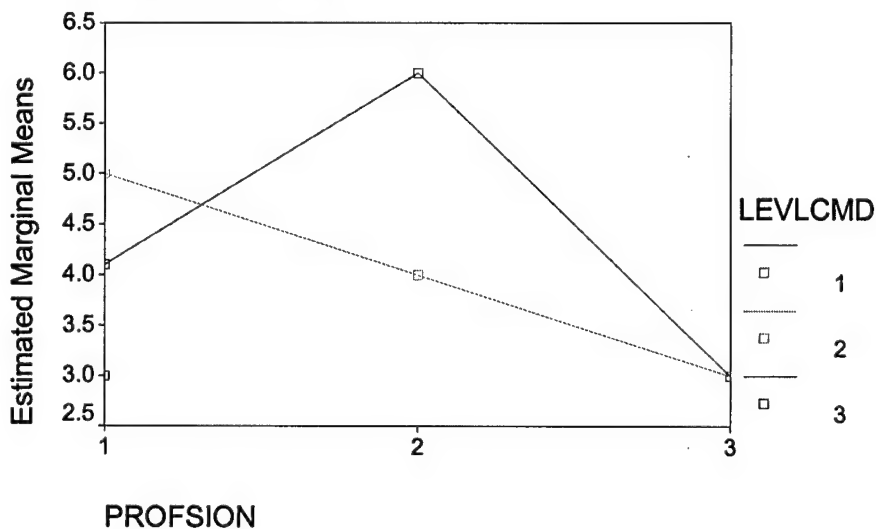
PROFSION
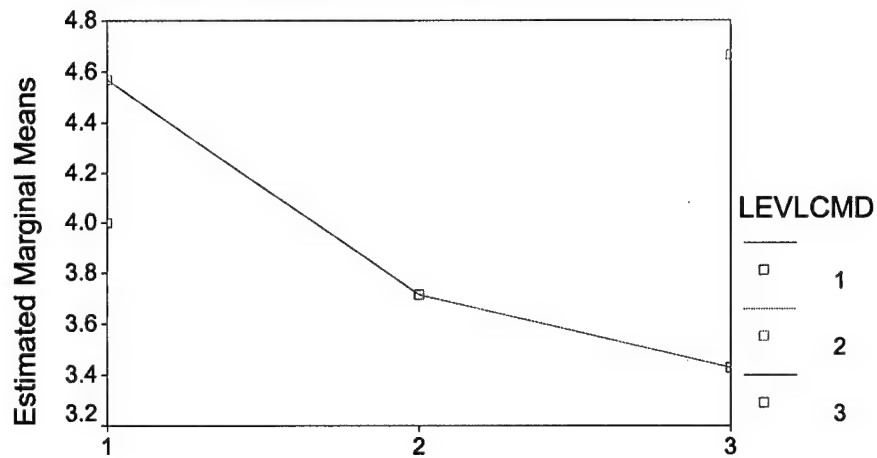
Non-estimable means are not plotted

Estimated Marginal Means of MALPRCFL

At SERVICE =   2
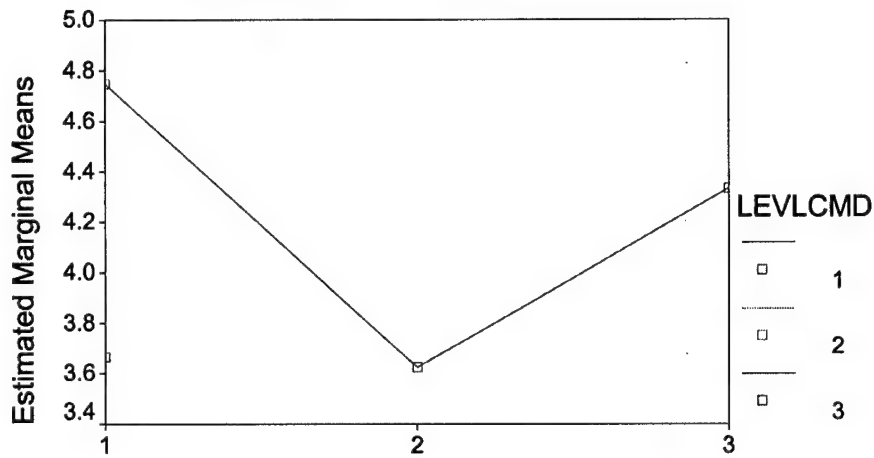
PROFSION

Non-estimable means are not plotted

Estimated Marginal Means of MALPRCFL

At SERVICE =   3
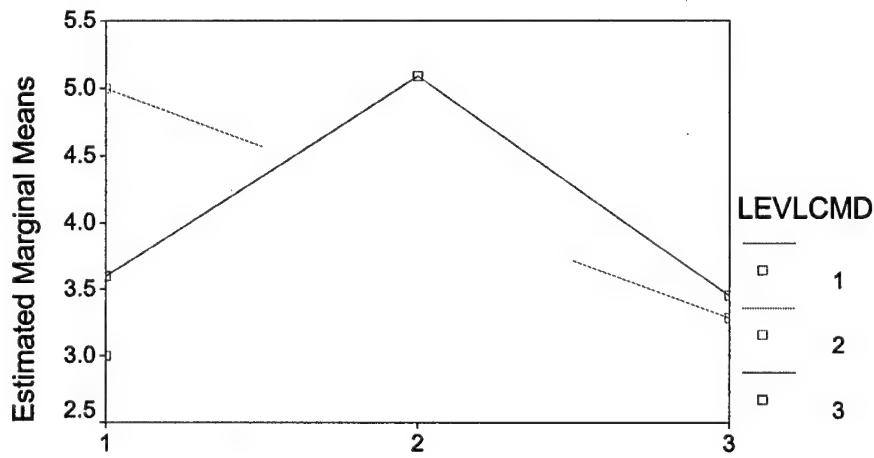
PROFSION

Non-estimable means are not plotted

Univariate Analysis of Variance

Between-Subjects Factors

		N
SERVICE	1	32
	2	30
	3	47
LEVLCMD	1	87
	2	17
	3	5
PROFSION	1	40
	2	28
	3	41

Descriptive Statistics

Dependent Variable: DENWELL

SERVICE	LEVLCMD	PROFSION	Mean	Std. Deviation	N
1	1	1	5.70	1.06	10
		2	4.71	1.80	7
		3	5.00	2.00	8
		Total	5.20	1.61	25
	2	1	7.00	.	1
		2	4.00	.	1
		3	3.25	2.87	4
		Total	4.00	2.68	6
	3	1	5.00	.	1
		Total	5.00	.	1
	Total	1	5.75	1.06	12
		2	4.63	1.69	8
		3	4.42	2.35	12
		Total	4.97	1.84	32
2	1	1	4.88	1.25	8
		2	5.88	1.36	8
		3	4.25	1.49	8
		Total	5.00	1.47	24
	2	3	5.33	.58	3
		Total	5.33	.58	3
	3	1	3.33	1.15	3
		Total	3.33	1.15	3
	Total	1	4.45	1.37	11
		2	5.88	1.36	8
		3	4.55	1.37	11
		Total	4.87	1.46	30
3	1	1	5.73	.70	15
		2	6.25	.75	12
		3	4.91	1.97	11
		Total	5.66	1.30	38
	2	1	2.00	.	1
		3	4.29	1.50	7
		Total	4.00	1.60	8
	3	1	6.00	.	1
		Total	6.00	.	1
	Total	1	5.53	1.12	17
		2	6.25	.75	12
		3	4.67	1.78	18
		Total	5.38	1.47	47
Total	1	1	5.52	1.00	33
		2	5.74	1.38	27
		3	4.74	1.81	27
		Total	5.34	1.45	87
	2	1	4.50	3.54	2
		2	4.00	.	1
		3	4.21	1.89	14
		Total	4.24	1.92	17
	3	1	4.20	1.48	5
		Total	4.20	1.48	5
	Total	1	5.30	1.26	40
		2	5.68	1.39	28
		3	4.56	1.83	41
		Total	5.12	1.59	109

Tests of Between-Subjects Effects

Dependent Variable: DENWELL

| Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	81.067[a]	17	4.769	2.279	.007
Intercept	673.340	1	673.340	321.846	.000
SERVICE	.626	2	.313	.150	.861
LEVLCMD	5.200	2	2.600	1.243	.293
PROFSION	3.844	2	1.922	.919	.403
SERVICE * LEVLCMD	18.421	4	4.605	2.201	.075
SERVICE * PROFSION	24.347	4	6.087	2.909	.026
LEVLCMD * PROFSION	.170	2	8.503E-02	.041	.960
SERVICE * LEVLCMD * PROFSION	13.672	1	13.672	6.535	.012
Error	190.383	91	2.092		
Total	3128.000	109			
Corrected Total	271.450	108			

a. R Squared = .299 (Adjusted R Squared = .168)

Profile Plots

PROFSION * LEVLCMD * SERVICE

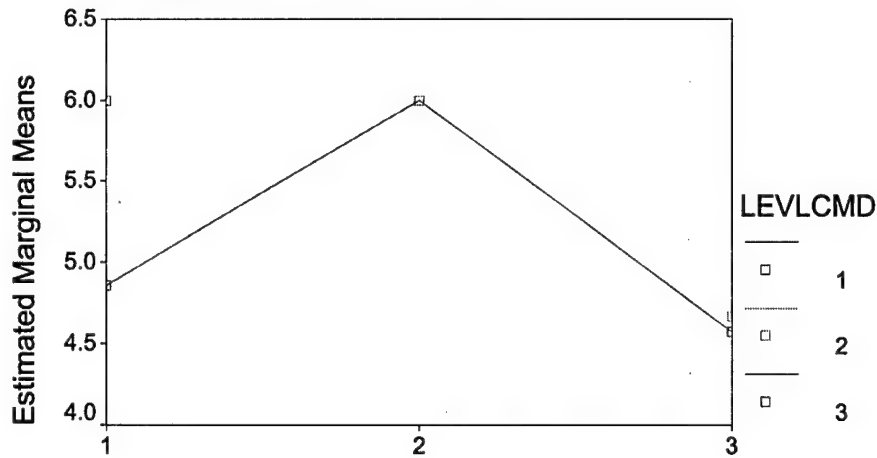### Estimated Marginal Means of DENWELL

At SERVICE = 1
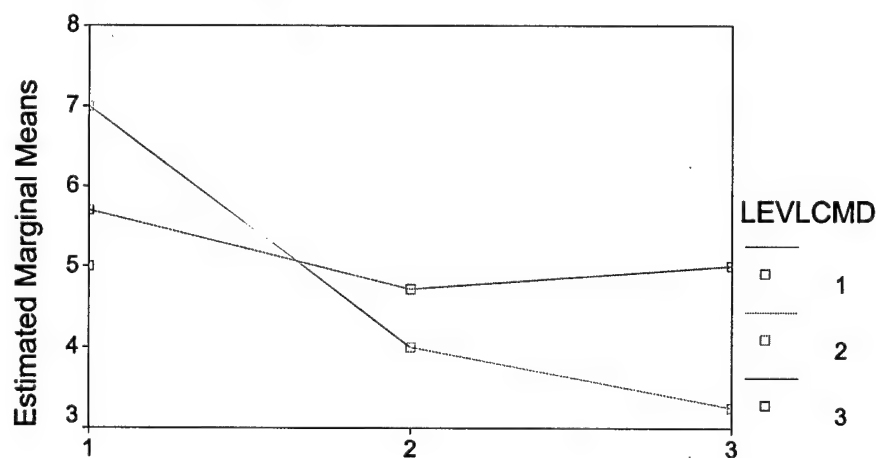
Non-estimable means are not plotted

Estimated Marginal Means of DENWELL

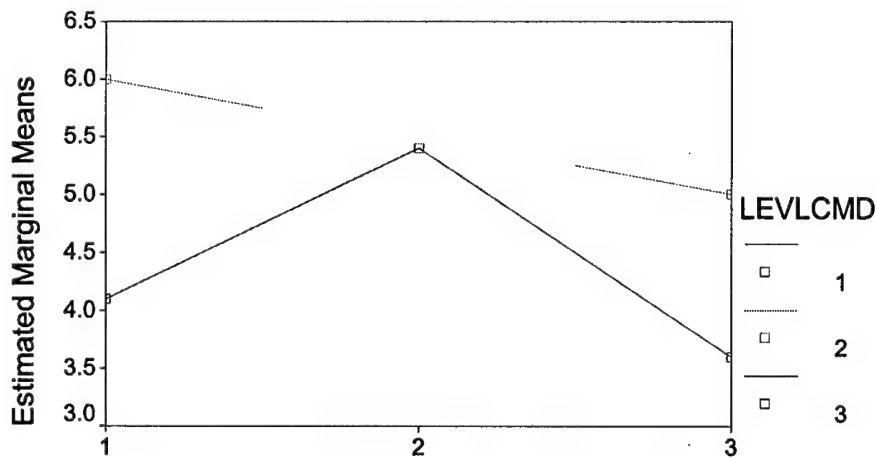## At SERVICE =   2
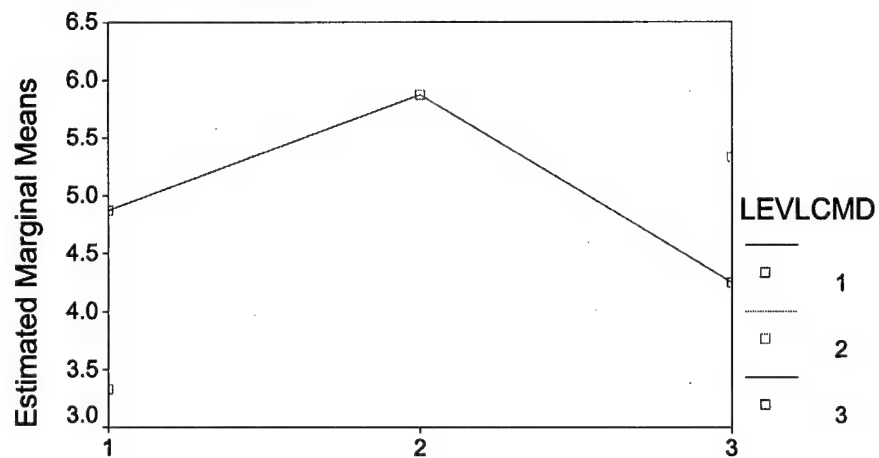
PROFSION

Non-estimable means are not plotted

Estimated Marginal Means of DENWELL

At SERVICE =   3
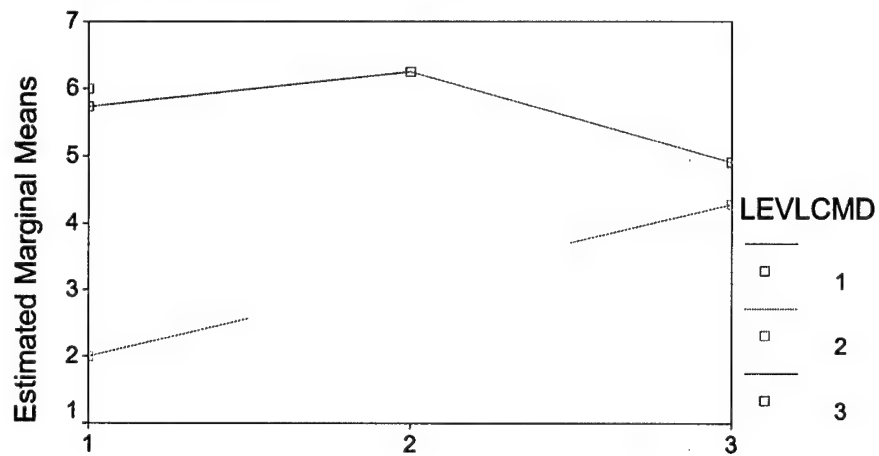
PROFSION

Non-estimable means are not plotted

Univariate Analysis of Variance

Between-Subjects Factors

		N
SERVICE	1	32
	2	30
	3	47
LEVLCMD	1	87
	2	17
	3	5
PROFSION	1	40
	2	28
	3	41

Descriptive Statistics

Dependent Variable: DENREAD

SERVICE	LEVLCMD	PROFSION	Mean	Std. Deviation	N
1	1	1	5.90	.99	10
		2	4.71	1.80	7
		3	5.25	1.67	8
		Total	5.36	1.50	25
	2	1	6.00	.	1
		2	4.00	.	1
		3	3.25	2.87	4
		Total	3.83	2.48	6
	3	1	6.00	.	1
		Total	6.00	.	1
	Total	1	5.92	.90	12
		2	4.63	1.69	8
		3	4.58	2.23	12
		Total	5.09	1.77	32
2	1	1	5.25	1.28	8
		2	5.63	1.19	8
		3	4.88	1.46	8
		Total	5.25	1.29	24
	2	3	5.67	1.15	3
		Total	5.67	1.15	3
	3	1	5.67	1.53	3
		Total	5.67	1.53	3
	Total	1	5.36	1.29	11
		2	5.63	1.19	8
		3	5.09	1.38	11
		Total	5.33	1.27	30
3	1	1	6.20	.77	15
		2	6.50	.67	12
		3	5.91	1.04	11
		Total	6.21	.84	38
	2	1	2.00	.	1
		3	4.57	1.62	7
		Total	4.25	1.75	8
	3	1	7.00	.	1
		Total	7.00	.	1
	Total	1	6.00	1.27	17
		2	6.50	.67	12
		3	5.39	1.42	18
		Total	5.89	1.27	47
Total	1	1	5.88	1.02	33
		2	5.78	1.37	27
		3	5.41	1.39	27
		Total	5.70	1.26	87
	2	1	4.00	2.83	2
		2	4.00	.	1
		3	4.43	2.03	14
		Total	4.35	1.97	17
	3	1	6.00	1.22	5
		Total	6.00	1.22	5
	Total	1	5.80	1.18	40
		2	5.71	1.38	28
		3	5.07	1.68	41
		Total	5.50	1.46	109

Tests of Between-Subjects Effects

Dependent Variable: DENREAD

| Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	75.062[a]	17	4.415	2.573	.002
Intercept	817.370	1	817.370	476.234	.000
SERVICE	1.531	2	.765	.446	.642
LEVLCMD	9.391	2	4.696	2.736	.070
PROFSION	.497	2	.249	.145	.865
SERVICE * LEVLCMD	16.550	4	4.138	2.411	.055
SERVICE * PROFSION	18.763	4	4.691	2.733	.034
LEVLCMD * PROFSION	.222	2	.111	.065	.937
SERVICE * LEVLCMD * PROFSION	8.872	1	8.872	5.169	.025
Error	156.185	91	1.716		
Total	3534.000	109			
Corrected Total	231.248	108			

a. R Squared = .325 (Adjusted R Squared = .198)

Profile Plots

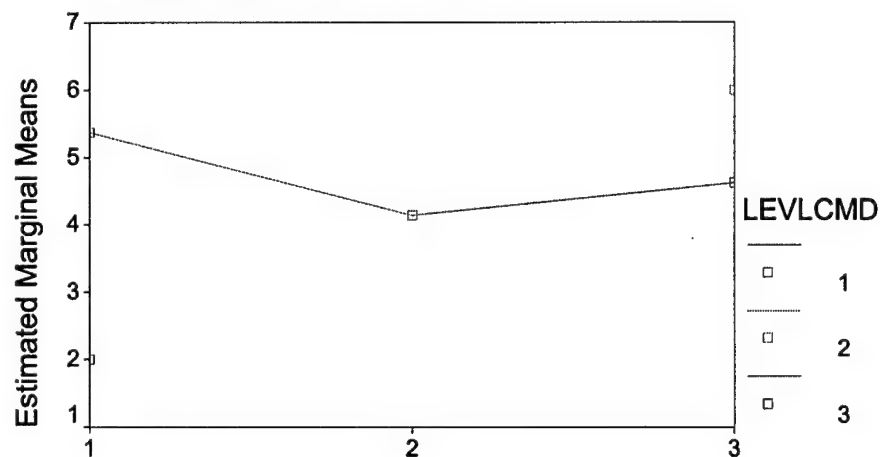# PROFSION * LEVLCMD * SERVICE

Estimated Marginal Means of DENREAD

At SERVICE = 1
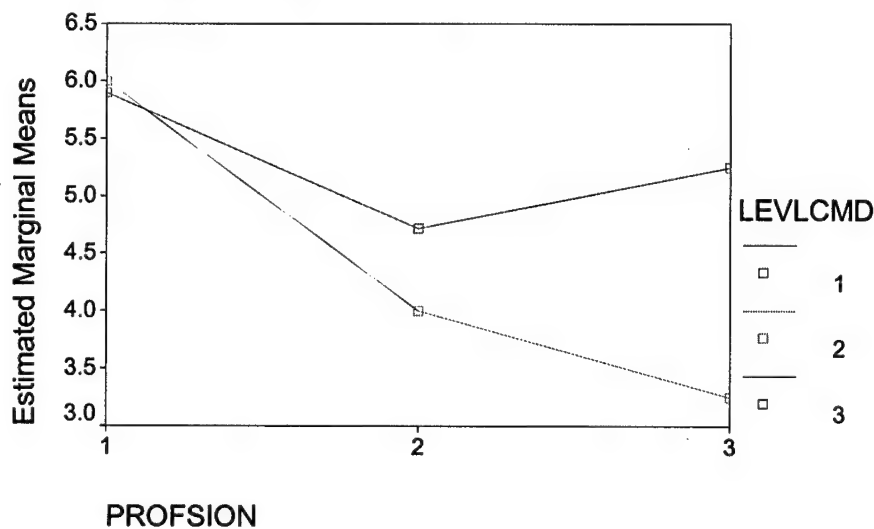
PROFSION

Non-estimable means are not plotted

# Estimated Marginal Means of DENREAD

At SERVICE = 2
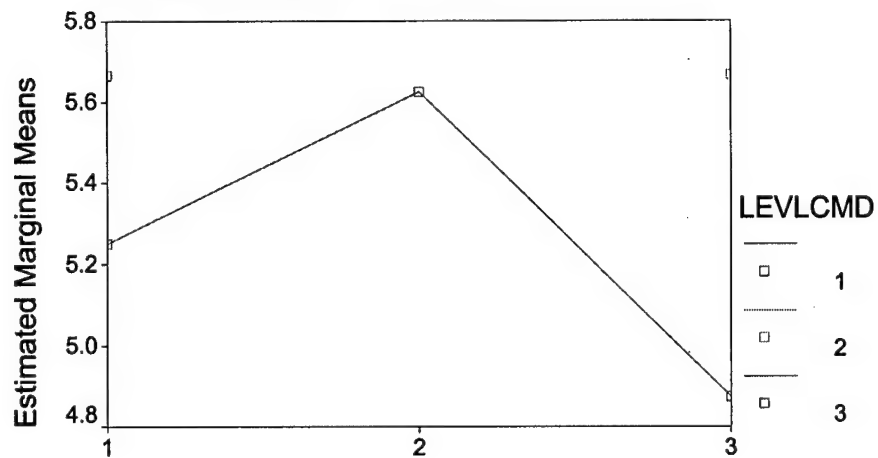
Estimated Marginal Means

PROFSION

LEVLCMD
1
2
3

Non-estimable means are not plotted

Estimated Marginal Means of DENREAD

At SERVICE = 3

Estimated Marginal Means
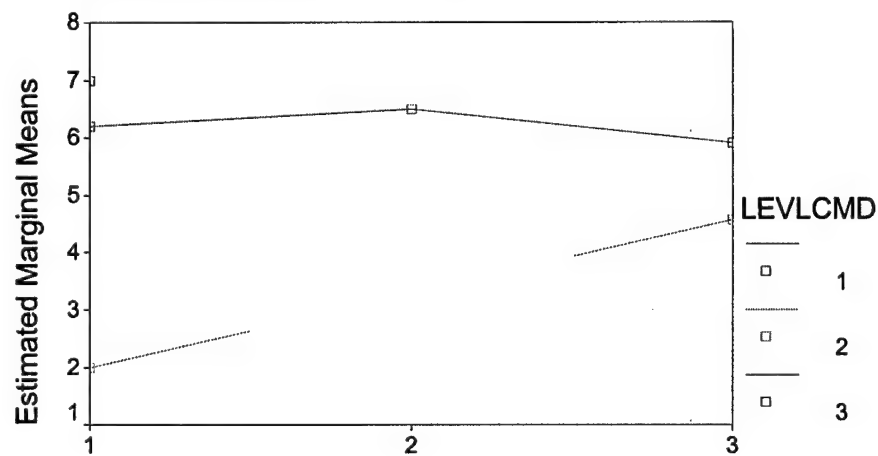
PROFSION

LEVLCMD
1
2
3

Non-estimable means are not plotted

Univariate Analysis of Variance

Between-Subjects Factors

		N
SERVICE	1	34
	2	26
	3	46
LEVLCMD	1	85
	2	17
	3	4
PROFSION	1	38
	2	27
	3	41

Tests of Between-Subjects Effects

Dependent Variable: PROFILES

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	67.937[a]	17	3.996	1.401	.155
Intercept	477.048	1	477.048	167.273	.000
SERVICE	1.880	2	.940	.330	.720
LEVLCMD	5.163	2	2.582	.905	.408
PROFSION	6.026	2	3.013	1.057	.352
SERVICE * LEVLCMD	10.909	4	2.727	.956	.436
SERVICE * PROFSION	31.787	4	7.947	2.786	.031
LEVLCMD * PROFSION	14.072	2	7.036	2.467	.091
SERVICE * LEVLCMD * PROFSION	9.009	1	9.009	3.159	.079
Error	250.969	88	2.852		
Total	2350.000	106			
Corrected Total	318.906	105			

a. R Squared = .213 (Adjusted R Squared = .061)

Post Hoc Tests

SERVICE

Multiple Comparisons

Dependent Variable: PROFILES
Tukey HSD

(I) SERVICE	(J) SERVICE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	.32	.44	.743	-.73	1.37
	3	-.31	.38	.702	-1.22	.60
2	1	-.32	.44	.743	-1.37	.73
	3	-.63	.41	.286	-1.62	.36
3	1	.31	.38	.702	-.60	1.22
	2	.63	.41	.286	-.36	1.62

Based on observed means.

Homogeneous Subsets

PROFILES

Tukey HSD[a,b,c]

SERVICE	N	Subset
		1
2	26	4.00
1	34	4.32
3	46	4.63
Sig.		.283

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 2.852.

   a. Uses Harmonic Mean Sample Size = 33.477.

   b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

   c. Alpha = .05.

PROFSION

Multiple Comparisons

Dependent Variable: PROFILES
Tukey HSD

(I) PROFSION	(J) PROFSION	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-.65	.43	.280	-1.67	.36
	3	6.61E-02	.38	.983	-.84	.97
2	1	.65	.43	.280	-.36	1.67
	3	.72	.42	.205	-.28	1.72
3	1	-6.61E-02	.38	.983	-.97	.84
	2	-.72	.42	.205	-1.72	.28

Based on observed means.

Homogeneous Subsets

PROFILES

Tukey HSD[a,b,c]

PROFSION	N	Subset 1
3	41	4.17
1	38	4.24
2	27	4.89
Sig.		.190

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 2.852.

  a. Uses Harmonic Mean Sample Size = 34.191.

  b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

  c. Alpha = .05.

LEVLCMD

Multiple Comparisons

Dependent Variable: PROFILES
Tukey HSD

(I) LEVLCMD	(J) LEVLCMD	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-1.18E-02	.45	1.000	-1.08	1.06
	3	.65	.86	.733	-1.41	2.71
2	1	1.18E-02	.45	1.000	-1.06	1.08
	3	.66	.94	.761	-1.58	2.90
3	1	-.65	.86	.733	-2.71	1.41
	2	-.66	.94	.761	-2.90	1.58

Based on observed means.

Homogeneous Subsets

PROFILES

Tukey HSD[a,b,c]

LEVLCMD	N	Subset
		1
3	4	3.75
1	85	4.40
2	17	4.41
Sig.		.675

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 2.852.

   a. Uses Harmonic Mean Sample Size = 9.358.

   b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

   c. Alpha = .05.

Univariate Analysis of Variance

Between-Subjects Factors

		N
SERVICE	1	25
	2	24
	3	33
LEVLCMD	1	63
	2	15
	3	4
PROFSION	1	29
	2	15
	3	38

Tests of Between-Subjects Effects

Dependent Variable: RWPENROL

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	50.568[a]	16	3.161	1.341	.201
Intercept	878.855	1	878.855	372.911	.000
SERVICE	1.267	2	.633	.269	.765
LEVLCMD	9.105	2	4.553	1.932	.153
PROFSION	26.163	2	13.081	5.551	.006
SERVICE * LEVLCMD	4.037	4	1.009	.428	.788
SERVICE * PROFSION	.926	4	.232	.098	.983
LEVLCMD * PROFSION	3.632	1	3.632	1.541	.219
SERVICE * LEVLCMD * PROFSION	1.741	1	1.741	.739	.393
Error	153.188	65	2.357		
Total	2002.000	82			
Corrected Total	203.756	81			

a. R Squared = .248 (Adjusted R Squared = .063)

Post Hoc Tests

SERVICE

Multiple Comparisons

Dependent Variable: RWPENROL
Tukey HSD

(I) SERVICE	(J) SERVICE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-.44	.44	.573	-1.50	.61
	3	.22	.41	.857	-.76	1.19
2	1	.44	.44	.573	-.61	1.50
	3	.66	.41	.253	-.33	1.65
3	1	-.22	.41	.857	-1.19	.76
	2	-.66	.41	.253	-1.65	.33

Based on observed means.

Homogeneous Subsets

RWPENROL

Tukey HSD[a,b,c]

SERVICE	N	Subset 1
3	33	4.42
1	25	4.64
2	24	5.08
Sig.		.265

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 2.357.

    a. Uses Harmonic Mean Sample Size = 26.793.

    b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

    c. Alpha = .05.

PROFSION

Multiple Comparisons

Dependent Variable: RWPENROL
Tukey HSD

(I) PROFSION	(J) PROFSION	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-.91	.49	.159	-2.08	.26
	3	.52	.38	.358	-.39	1.43
2	1	.91	.49	.159	-.26	2.08
	3	1.43*	.47	.009	.31	2.55
3	1	-.52	.38	.358	-1.43	.39
	2	-1.43*	.47	.009	-2.55	-.31

Based on observed means.

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

RWPENROL

Tukey HSD[a,b,c]

PROFSION	N	Subset	
		1	2
3	38	4.24	
1	29	4.76	4.76
2	15		5.67
Sig.		.478	.113

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 2.357.

a. Uses Harmonic Mean Sample Size = 23.536.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

LEVLCMD

Multiple Comparisons

Dependent Variable: RWPENROL
Tukey HSD

(I) LEVLCMD	(J) LEVLCMD	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	1.90E-02	.44	.999	-1.04	1.08
	3	-1.38	.79	.197	-3.28	.52
2	1	-1.90E-02	.44	.999	-1.08	1.04
	3	-1.40	.86	.244	-3.47	.67
3	1	1.38	.79	.197	-.52	3.28
	2	1.40	.86	.244	-.67	3.47

Based on observed means.

Homogeneous Subsets

RWPENROL

Tukey HSD[a,b,c]

LEVLCMD	N	Subset 1
2	15	4.60
1	63	4.62
3	4	6.00
Sig.		.137

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 2.357.

   a. Uses Harmonic Mean Sample Size = 9.021.

   b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

   c. Alpha = .05.

Univariate Analysis of Variance

Between-Subjects Factors

		N
SERVICE	1	32
	2	28
	3	43
LEVLCMD	1	83
	2	16
	3	4
PROFSION	1	38
	2	25
	3	40

Tests of Between-Subjects Effects

Dependent Variable: MCSPHONE

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	45.483[a]	17	2.675	1.227	.262
Intercept	632.991	1	632.991	290.251	.000
SERVICE	5.236	2	2.618	1.201	.306
LEVLCMD	4.349	2	2.174	.997	.373
PROFSION	2.872	2	1.436	.658	.520
SERVICE * LEVLCMD	21.738	4	5.435	2.492	.049
SERVICE * PROFSION	12.908	4	3.227	1.480	.216
LEVLCMD * PROFSION	4.590	2	2.295	1.052	.354
SERVICE * LEVLCMD * PROFSION	3.393E-04	1	3.393E-04	.000	.990
Error	185.371	85	2.181		
Total	2629.000	103			
Corrected Total	230.854	102			

a. R Squared = .197 (Adjusted R Squared = .036)

Post Hoc Tests

SERVICE

Multiple Comparisons

Dependent Variable: MCSPHONE
Tukey HSD

(I) SERVICE	(J) SERVICE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	.42	.38	.525	-.50	1.33
	3	.37	.34	.528	-.45	1.20
2	1	-.42	.38	.525	-1.33	.50
	3	-4.24E-02	.36	.992	-.90	.81
3	1	-.37	.34	.528	-1.20	.45
	2	4.24E-02	.36	.992	-.81	.90

Based on observed means.

Homogeneous Subsets

MCSPHONE

Tukey HSD[a,b,c]

SERVICE	N	Subset 1
2	28	4.68
3	43	4.72
1	32	5.09
Sig.		.488

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 2.181.

    a. Uses Harmonic Mean Sample Size = 33.252.

    b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

    c. Alpha = .05.

PROFSION

Multiple Comparisons

Dependent Variable: MCSPHONE
Tukey HSD

(I) PROFSION	(J) PROFSION	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-.25	.38	.791	-1.16	.66
	3	-.34	.33	.562	-1.14	.45
2	1	.25	.38	.791	-.66	1.16
	3	-9.50E-02	.38	.966	-.99	.80
3	1	.34	.33	.562	-.45	1.14
	2	9.50E-02	.38	.966	-.80	.99

Based on observed means.

Homogeneous Subsets

MCSPHONE

Tukey HSD[a,b,c]

PROFSION	N	Subset 1
1	38	4.63
2	25	4.88
3	40	4.97
Sig.		.615

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 2.181.

  a. Uses Harmonic Mean Sample Size = 32.853.

  b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

  c. Alpha = .05.

LEVLCMD

Multiple Comparisons

Dependent Variable: MCSPHONE
Tukey HSD

(I) LEVLCMD	(J) LEVLCMD	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-.37	.40	.633	-1.33	.59
	3	1.32	.76	.195	-.48	3.12
2	1	.37	.40	.633	-.59	1.33
	3	1.69	.83	.108	-.28	3.66
3	1	-1.32	.76	.195	-3.12	.48
	2	-1.69	.83	.108	-3.66	.28

Based on observed means.

Homogeneous Subsets

MCSPHONE

Tukey HSD[a,b,c]

LEVLCMD	N	Subset	
		1	2
3	4	3.50	
1	83	4.82	4.82
2	16		5.19
Sig.		.139	.854

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 2.181.

   a. Uses Harmonic Mean Sample Size = 9.244.

   b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

   c. Alpha = .05.

Univariate Analysis of Variance

Between-Subjects Factors

		N
SERVICE	1	34
	2	31
	3	46
LEVLCMD	1	89
	2	17
	3	5
PROFSION	1	40
	2	28
	3	43

Tests of Between-Subjects Effects

Dependent Variable: MALPRCFL

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	78.502[a]	17	4.618	1.566	.090
Intercept	450.642	1	450.642	152.803	.000
SERVICE	.692	2	.346	.117	.889
LEVLCMD	6.388	2	3.194	1.083	.343
PROFSION	10.798	2	5.399	1.831	.166
SERVICE * LEVLCMD	.163	4	4.078E-02	.014	1.000
SERVICE * PROFSION	34.716	4	8.679	2.943	.024
LEVLCMD * PROFSION	5.326	2	2.663	.903	.409
SERVICE * LEVLCMD * PROFSION	.162	1	.162	.055	.815
Error	274.273	93	2.949		
Total	2169.000	111			
Corrected Total	352.775	110			

a. R Squared = .223 (Adjusted R Squared = .080)

Post Hoc Tests

SERVICE

Multiple Comparisons

Dependent Variable: MALPRCFL
Tukey HSD

(I) SERVICE	(J) SERVICE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-7.59E-02	.43	.983	-1.09	.94
	3	.23	.39	.830	-.70	1.15
2	1	7.59E-02	.43	.983	-.94	1.09
	3	.30	.40	.730	-.65	1.25
3	1	-.23	.39	.830	-1.15	.70
	2	-.30	.40	.730	-1.25	.65

Based on observed means.

Homogeneous Subsets

MALPRCFL

Tukey HSD[a,b,c]

SERVICE	N	Subset 1
3	46	3.89
1	34	4.12
2	31	4.19
Sig.		.737

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 2.949.

  a. Uses Harmonic Mean Sample Size = 35.967.

  b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

  c. Alpha = .05.

PROFSION

Multiple Comparisons

Dependent Variable: MALPRCFL
Tukey HSD

(I) PROFSION	(J) PROFSION	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-.89	.42	.093	-1.90	.12
	3	.47	.38	.437	-.43	1.36
2	1	.89	.42	.093	-.12	1.90
	3	1.36*	.42	.004	.36	2.35
3	1	-.47	.38	.437	-1.36	.43
	2	-1.36*	.42	.004	-2.35	-.36

Based on observed means.

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

MALPRCFL

Tukey HSD[a,b,c]

PROFSION	N	Subset	
		1	2
3	43	3.53	
1	40	4.00	4.00
2	28		4.89
Sig.		.489	.077

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 2.949.

a. Uses Harmonic Mean Sample Size = 35.727.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

LEVLCMD

Multiple Comparisons

Dependent Variable: MALPRCFL
Tukey HSD

(I) LEVLCMD	(J) LEVLCMD	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	.51	.45	.503	-.57	1.59
	3	.76	.79	.604	-1.12	2.64
2	1	-.51	.45	.503	-1.59	.57
	3	.25	.87	.957	-1.83	2.33
3	1	-.76	.79	.604	-2.64	1.12
	2	-.25	.87	.957	-2.33	1.83

Based on observed means.

Homogeneous Subsets

MALPRCFL

Tukey HSD[a,b,c]

LEVLCMD	N	Subset 1
3	5	3.40
2	17	3.65
1	89	4.16
Sig.		.554

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 2.949.

   a. Uses Harmonic Mean Sample Size = 11.109.

   b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

   c. Alpha = .05.

Univariate Analysis of Variance

Between-Subjects Factors

		N
SERVICE	1	32
	2	30
	3	47
LEVLCMD	1	87
	2	17
	3	5
PROFSION	1	40
	2	28
	3	41

Tests of Between-Subjects Effects

Dependent Variable: DENWELL

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	81.067[a]	17	4.769	2.279	.007
Intercept	673.340	1	673.340	321.846	.000
SERVICE	.626	2	.313	.150	.861
LEVLCMD	5.200	2	2.600	1.243	.293
PROFSION	3.844	2	1.922	.919	.403
SERVICE * LEVLCMD	18.421	4	4.605	2.201	.075
SERVICE * PROFSION	24.347	4	6.087	2.909	.026
LEVLCMD * PROFSION	.170	2	8.503E-02	.041	.960
SERVICE * LEVLCMD * PROFSION	13.672	1	13.672	6.535	.012
Error	190.383	91	2.092		
Total	3128.000	109			
Corrected Total	271.450	108			

a. R Squared = .299 (Adjusted R Squared = .168)

Post Hoc Tests

SERVICE

Multiple Comparisons

Dependent Variable: DENWELL
Tukey HSD

(I) SERVICE	(J) SERVICE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	.10	.37	.958	-.77	.98
	3	-.41	.33	.427	-1.20	.38
2	1	-.10	.37	.958	-.98	.77
	3	-.52	.34	.283	-1.32	.29
3	1	.41	.33	.427	-.38	1.20
	2	.52	.34	.283	-.29	1.32

Based on observed means.

Homogeneous Subsets

DENWELL

Tukey HSD[a,b,c]

SERVICE	N	Subset
		1
2	30	4.87
1	32	4.97
3	47	5.38
Sig.		.300

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 2.092.

  a. Uses Harmonic Mean Sample Size = 34.941.

  b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

  c. Alpha = .05.

PROFSION

Multiple Comparisons

Dependent Variable: DENWELL
Tukey HSD

(I) PROFSION	(J) PROFSION	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-.38	.36	.540	-1.23	.47
	3	.74	.32	.061	-2.69E-02	1.50
2	1	.38	.36	.540	-.47	1.23
	3	1.12*	.35	.006	.27	1.96
3	1	-.74	.32	.061	-1.50	2.69E-02
	2	-1.12*	.35	.006	-1.96	-.27

Based on observed means.

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

DENWELL

Tukey HSD[a,b,c]

PROFSION	N	Subset	
		1	2
3	41	4.56	
1	40	5.30	5.30
2	28		5.68
Sig.		.087	.517

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 2.092.

a. Uses Harmonic Mean Sample Size = 35.251.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

LEVLCMD

Multiple Comparisons

Dependent Variable: DENWELL
Tukey HSD

(I) LEVLCMD	(J) LEVLCMD	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	1.11*	.38	.013	.20	2.02
	3	1.14	.67	.203	-.44	2.73
2	1	-1.11*	.38	.013	-2.02	-.20
	3	3.53E-02	.74	.999	-1.72	1.79
3	1	-1.14	.67	.203	-2.73	.44
	2	-3.53E-02	.74	.999	-1.79	1.72

Based on observed means.

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

DENWELL

Tukey HSD[a,b,c]

LEVLCMD	N	Subset
		1
3	5	4.20
2	17	4.24
1	87	5.34
Sig.		.155

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 2.092.

a. Uses Harmonic Mean Sample Size = 11.098.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Univariate Analysis of Variance

Between-Subjects Factors

		N
SERVICE	1	32
	2	30
	3	47
LEVLCMD	1	87
	2	17
	3	5
PROFSION	1	40
	2	28
	3	41

Tests of Between-Subjects Effects

Dependent Variable: DENREAD

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	75.062[a]	17	4.415	2.573	.002
Intercept	817.370	1	817.370	476.234	.000
SERVICE	1.531	2	.765	.446	.642
LEVLCMD	9.391	2	4.696	2.736	.070
PROFSION	.497	2	.249	.145	.865
SERVICE * LEVLCMD	16.550	4	4.138	2.411	.055
SERVICE * PROFSION	18.763	4	4.691	2.733	.034
LEVLCMD * PROFSION	.222	2	.111	.065	.937
SERVICE * LEVLCMD * PROFSION	8.872	1	8.872	5.169	.025
Error	156.185	91	1.716		
Total	3534.000	109			
Corrected Total	231.248	108			

a. R Squared = .325 (Adjusted R Squared = .198)

Post Hoc Tests

SERVICE

Multiple Comparisons

Dependent Variable: DENREAD
Tukey HSD

(I) SERVICE	(J) SERVICE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-.24	.33	.753	-1.03	.55
	3	-.80*	.30	.025	-1.52	-8.45E-02
2	1	.24	.33	.753	-.55	1.03
	3	-.56	.31	.166	-1.29	.17
3	1	.80*	.30	.025	8.45E-02	1.52
	2	.56	.31	.166	-.17	1.29

Based on observed means.

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

DENREAD

Tukey HSD[a,b,c]

SERVICE	N	Subset	
		1	2
1	32	5.09	
2	30	5.33	5.33
3	47		5.89
Sig.		.726	.179

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 1.716.

a. Uses Harmonic Mean Sample Size = 34.941.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

PROFSION

Multiple Comparisons

Dependent Variable: DENREAD
Tukey HSD

(I) PROFSION	(J) PROFSION	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	8.57E-02	.32	.962	-.68	.85
	3	.73*	.29	.038	3.31E-02	1.42
2	1	-8.57E-02	.32	.962	-.85	.68
	3	.64	.32	.119	-.12	1.41
3	1	-.73*	.29	.038	-1.42	-3.31E-02
	2	-.64	.32	.119	-1.41	.12

Based on observed means.

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

DENREAD

Tukey HSD[a,b,c]

PROFSION	N	Subset 1
3	41	5.07
2	28	5.71
1	40	5.80
Sig.		.057

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 1.716.

a. Uses Harmonic Mean Sample Size = 35.251.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

LEVLCMD

Multiple Comparisons

Dependent Variable: DENREAD
Tukey HSD

(I) LEVLCMD	(J) LEVLCMD	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	1.35*	.35	.001	.52	2.18
	3	-.30	.60	.873	-1.73	1.14
2	1	-1.35*	.35	.001	-2.18	-.52
	3	-1.65*	.67	.040	-3.24	-5.90E-02
3	1	.30	.60	.873	-1.14	1.73
	2	1.65*	.67	.040	5.90E-02	3.24

Based on observed means.

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

DENREAD

Tukey HSD[a,b,c]

LEVLCMD	N	Subset	
		1	2
2	17	4.35	
1	87		5.70
3	5		6.00
Sig.		1.000	.853

Means for groups in homogeneous subsets are displayed.
Based on Type III Sum of Squares
The error term is Mean Square(Error) = 1.716.

a. Uses Harmonic Mean Sample Size = 11.098.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Frequencies

Statistics

SATQUALT

N	Valid	112
	Missing	0
Mean		6.16
Std. Deviation		1.11
Percentiles	25	6.00
	50	6.00
	75	7.00

SATQUALT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.9	.9	.9
	2	1	.9	.9	1.8
	3	3	2.7	2.7	4.5
	4	1	.9	.9	5.4
	5	15	13.4	13.4	18.8
	6	38	33.9	33.9	52.7
	7	53	47.3	47.3	100.0
	Total	112	100.0	100.0	

Satisfaction w/Quality of Healthcare

Std. Dev = 1.11
Mean = 6.2
N = 112.00

Likert Scale Values
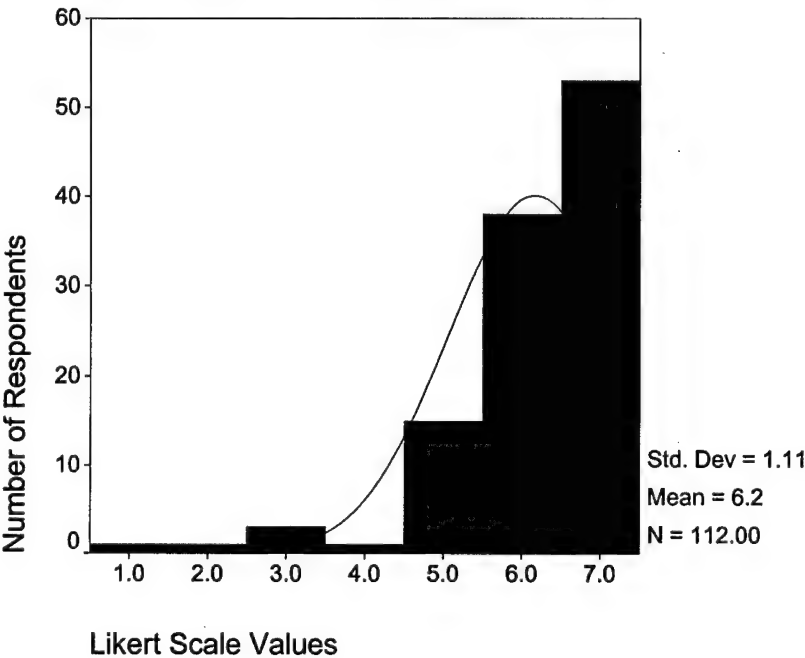
Frequencies

Statistics

BENSATCU

N	Valid	110
	Missing	2
Mean		6.15
Std. Deviation		1.07
Percentiles	25	6.00
	50	6.00
	75	7.00

BENSATCU

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	.9	.9	.9
	3	4	3.6	3.6	4.5
	4	3	2.7	2.7	7.3
	5	12	10.7	10.9	18.2
	6	40	35.7	36.4	54.5
	7	50	44.6	45.5	100.0
	Total	110	98.2	100.0	
Missing	System	2	1.8		
Total		112	100.0		

% Beneficiaries Satis w/Customer Serv

Std. Dev = 1.07
Mean = 6.1
N = 110.00

Likert Scale Values
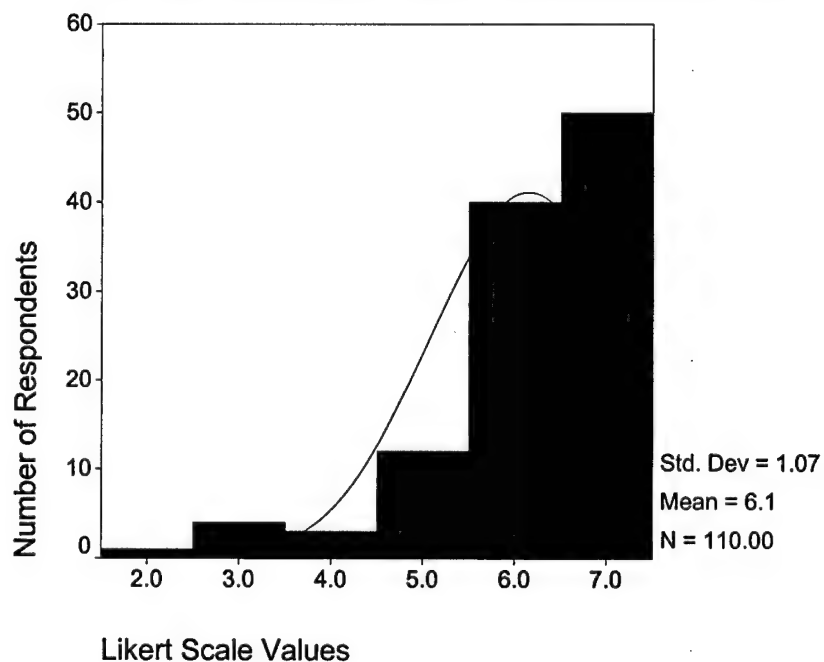
Frequencies

Statistics

PTSATACC

N	Valid	112
	Missing	0
Mean		6.13
Std. Deviation		1.04
Percentiles	25	6.00
	50	6.00
	75	7.00

PTSATACC

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.9	.9	.9
	3	1	.9	.9	1.8
	4	6	5.4	5.4	7.1
	5	15	13.4	13.4	20.5
	6	40	35.7	35.7	56.3
	7	49	43.8	43.8	100.0
	Total	112	100.0	100.0	

Patient Satisfaction w/Access

Std. Dev = 1.04
Mean = 6.1
N = 112.00
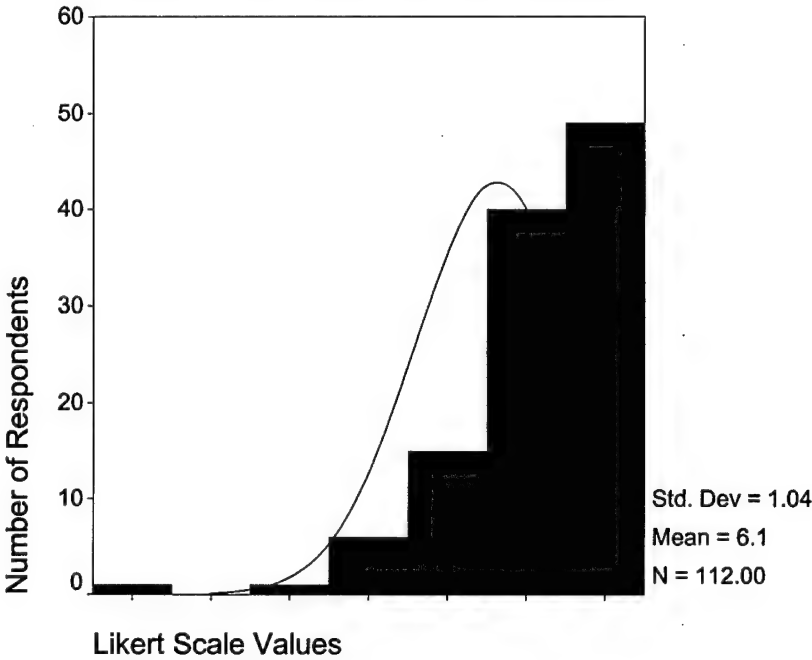
Frequencies

Statistics

SATACHLT

N	Valid	112
	Missing	0
Mean		6.09
Std. Deviation		1.11
Percentiles	25	6.00
	50	6.00
	75	7.00

SATACHLT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.9	.9	.9
	2	2	1.8	1.8	2.7
	3	1	.9	.9	3.6
	4	2	1.8	1.8	5.4
	5	17	15.2	15.2	20.5
	6	42	37.5	37.5	58.0
	7	47	42.0	42.0	100.0
	Total	112	100.0	100.0	

Satisfaction w/Access to Healthcare

Std. Dev = 1.11
Mean = 6.1
N = 112.00

Number of Respondents

Likert Scale Values
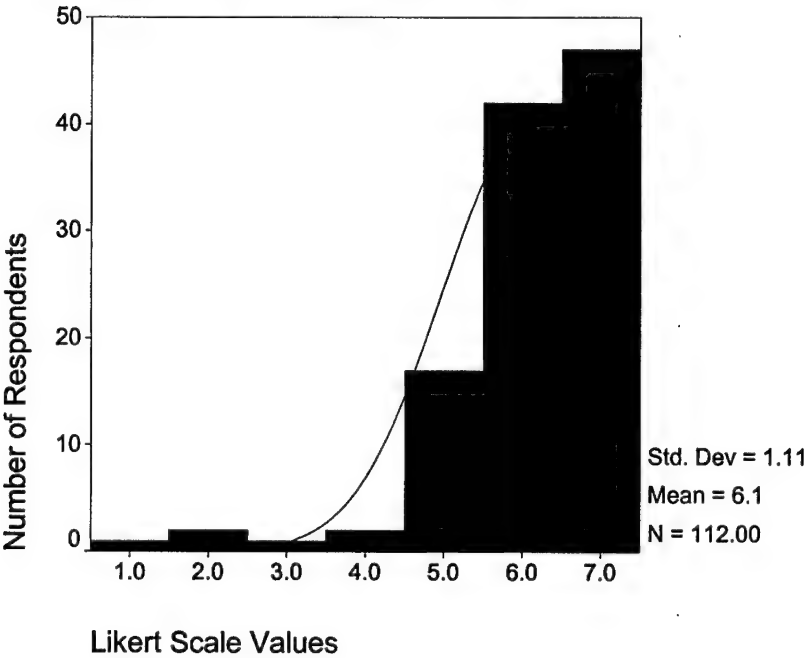
Frequencies

Statistics

SATCLNVI

N	Valid	111
	Missing	1
Mean		6.07
Std. Deviation		1.04
Percentiles	25	6.00
	50	6.00
	75	7.00

SATCLNVI

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	2	1.8	1.8	1.8
	4	8	7.1	7.2	9.0
	5	12	10.7	10.8	19.8
	6	45	40.2	40.5	60.4
	7	44	39.3	39.6	100.0
	Total	111	99.1	100.0	
Missing	System	1	.9		
Total		112	100.0		

Overall Satisfaction w/Clinic Visit

Std. Dev = 1.04
Mean = 6.1
N = 111.00

Likert Scale Values
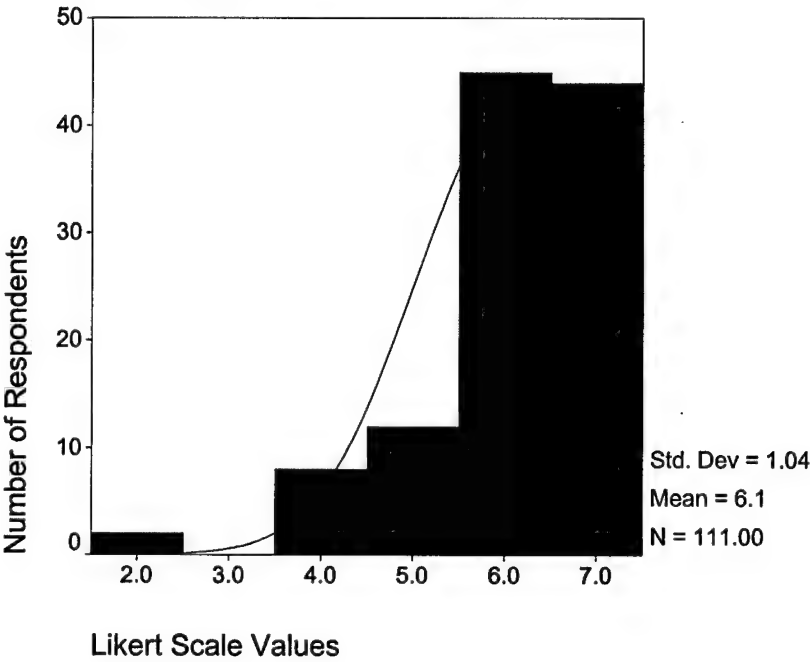
Frequencies

Statistics

PTSATWAI

N	Valid	112
	Missing	0
Mean		5.94
Std. Deviation		1.16
Percentiles	25	5.25
	50	6.00
	75	7.00

PTSATWAI

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.9	.9	.9
	3	4	3.6	3.6	4.5
	4	8	7.1	7.1	11.6
	5	15	13.4	13.4	25.0
	6	43	38.4	38.4	63.4
	7	41	36.6	36.6	100.0
	Total	112	100.0	100.0	

Patient Satisfaction w/Waiting Times

Std. Dev = 1.16
Mean = 5.9
N = 112.00

Number of Respondents

Likert Scale Values
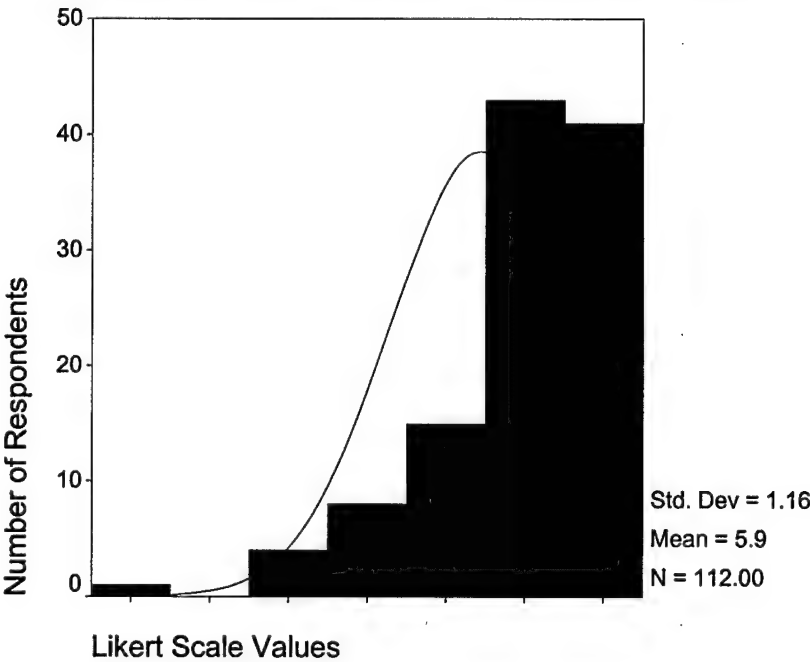
Frequencies

Statistics

ELIGENRL

N	Valid	111
	Missing	1
Mean		5.91
Std. Deviation		1.25
Percentiles	25	5.00
	50	6.00
	75	7.00

ELIGENRL

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.8	1.8	1.8
	2	1	.9	.9	2.7
	3	2	1.8	1.8	4.5
	4	6	5.4	5.4	9.9
	5	22	19.6	19.8	29.7
	6	34	30.4	30.6	60.4
	7	44	39.3	39.6	100.0
	Total	111	99.1	100.0	
Missing	System	1	.9		
Total		112	100.0		

% Eligibles Enrolled to MTF

Std. Dev = 1.25
Mean = 5.9
N = 111.00

Likert Scale Values
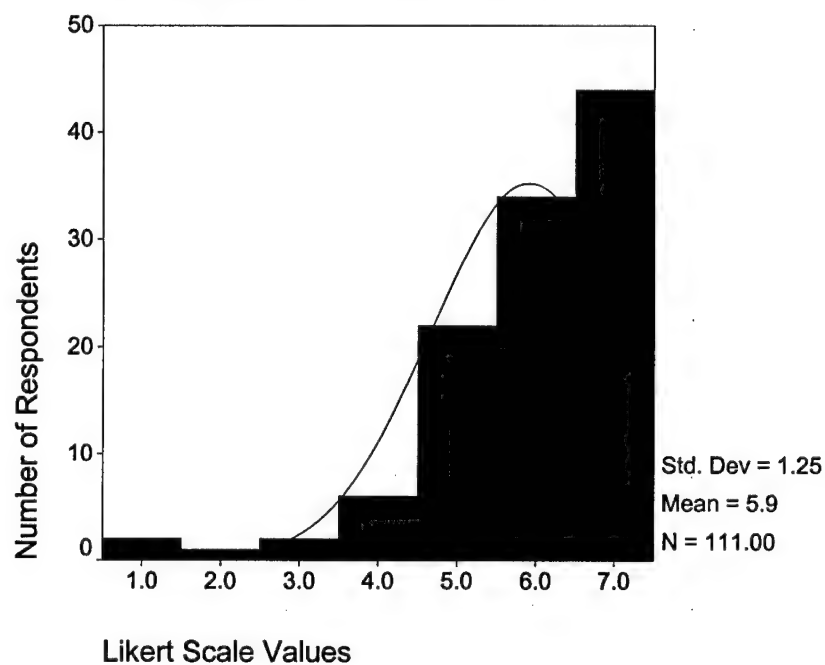
Frequencies

Statistics

COSTENRL

N	Valid	110
	Missing	2
Mean		5.89
Std. Deviation		1.15
Percentiles	25	5.00
	50	6.00
	75	7.00

COSTENRL

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.9	.9	.9
	3	2	1.8	1.8	2.7
	4	11	9.8	10.0	12.7
	5	19	17.0	17.3	30.0
	6	37	33.0	33.6	63.6
	7	40	35.7	36.4	100.0
	Total	110	98.2	100.0	
Missing	System	2	1.8		
Total		112	100.0		

Cost per Enrollee

Std. Dev = 1.15
Mean = 5.9
N = 110.00

Likert Scale Values
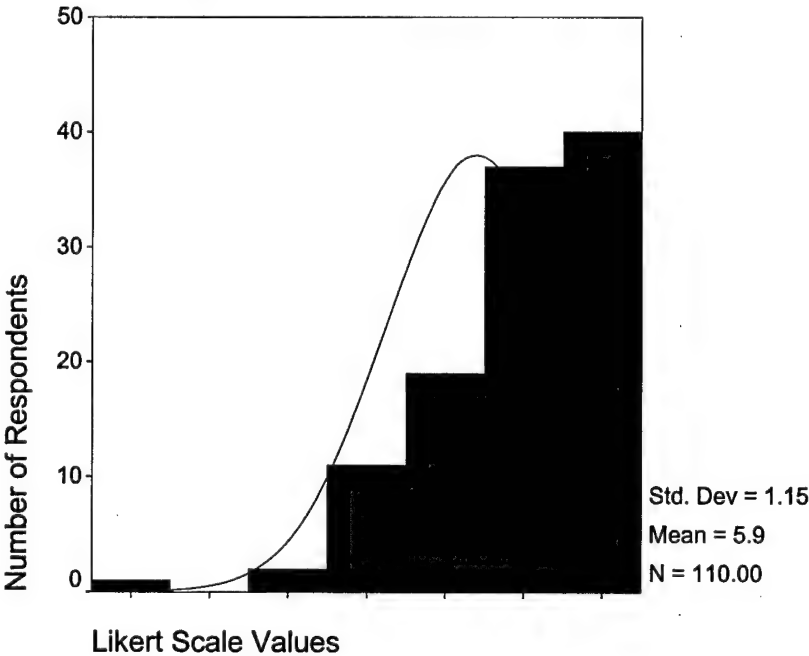
Frequencies

Statistics

APPTEASE

N	Valid	111
	Missing	1
Mean		5.89
Std. Deviation		1.23
Percentiles	25	5.00
	50	6.00
	75	7.00

APPTEASE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.9	.9	.9
	2	2	1.8	1.8	2.7
	3	2	1.8	1.8	4.5
	4	6	5.4	5.4	9.9
	5	25	22.3	22.5	32.4
	6	31	27.7	27.9	60.4
	7	44	39.3	39.6	100.0
	Total	111	99.1	100.0	
Missing	System	1	.9		
Total		112	100.0		

Ease of Making Appt by Phone

Std. Dev = 1.23
Mean = 5.9
N = 111.00

Number of Respondents

Likert Scale Values
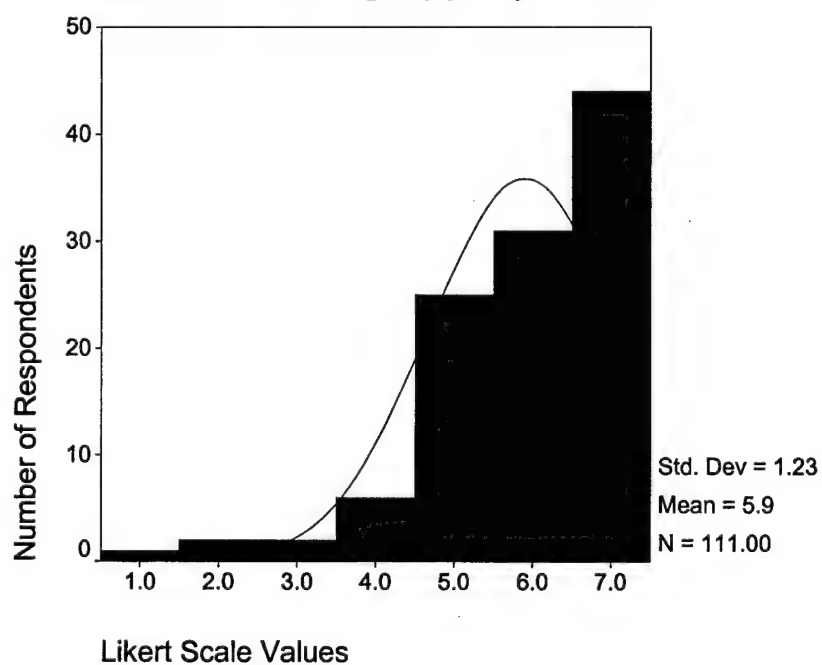
Frequencies

Statistics

ERVISITS

N	Valid	109
	Missing	3
Mean		5.87
Std. Deviation		1.33
Percentiles	25	5.00
	50	6.00
	75	7.00

ERVISITS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.7	2.8	2.8
	3	5	4.5	4.6	7.3
	4	3	2.7	2.8	10.1
	5	19	17.0	17.4	27.5
	6	38	33.9	34.9	62.4
	7	41	36.6	37.6	100.0
	Total	109	97.3	100.0	
Missing	System	3	2.7		
Total		112	100.0		

Emergency Dept Visits/1000 Enrollees

Std. Dev = 1.33
Mean = 5.9
N = 109.00

Number of Respondents

Likert Scale Values
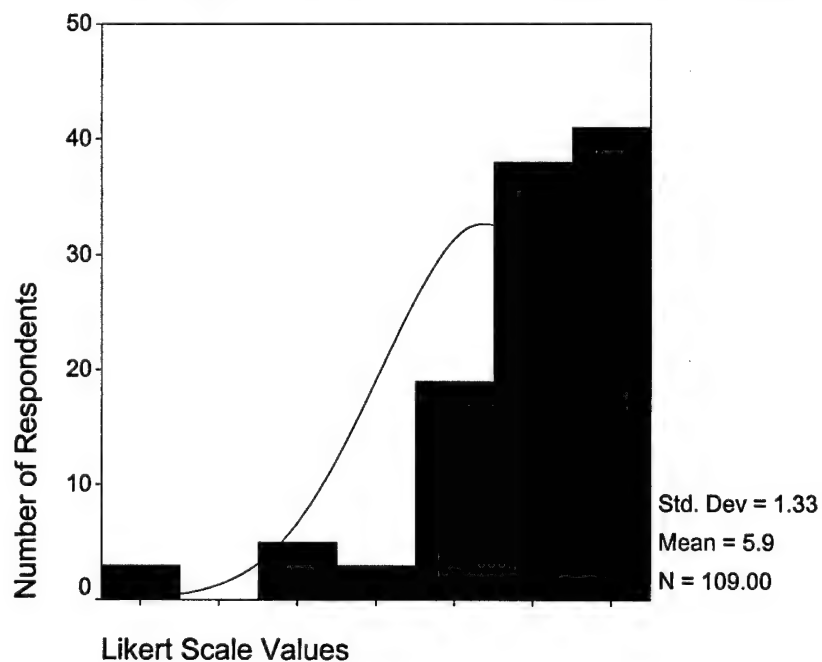
Frequencies

Statistics

PREVCARE

N	Valid	111
	Missing	1
Mean		5.81
Std. Deviation		1.18
Percentiles	25	5.00
	50	6.00
	75	7.00

PREVCARE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	.9	.9	.9
	3	6	5.4	5.4	6.3
	4	8	7.1	7.2	13.5
	5	19	17.0	17.1	30.6
	6	41	36.6	36.9	67.6
	7	36	32.1	32.4	100.0
	Total	111	99.1	100.0	
Missing	System	1	.9		
Total		112	100.0		

Preventive Care Measures

Std. Dev = 1.18
Mean = 5.8
N = 111.00

Likert Scale Values
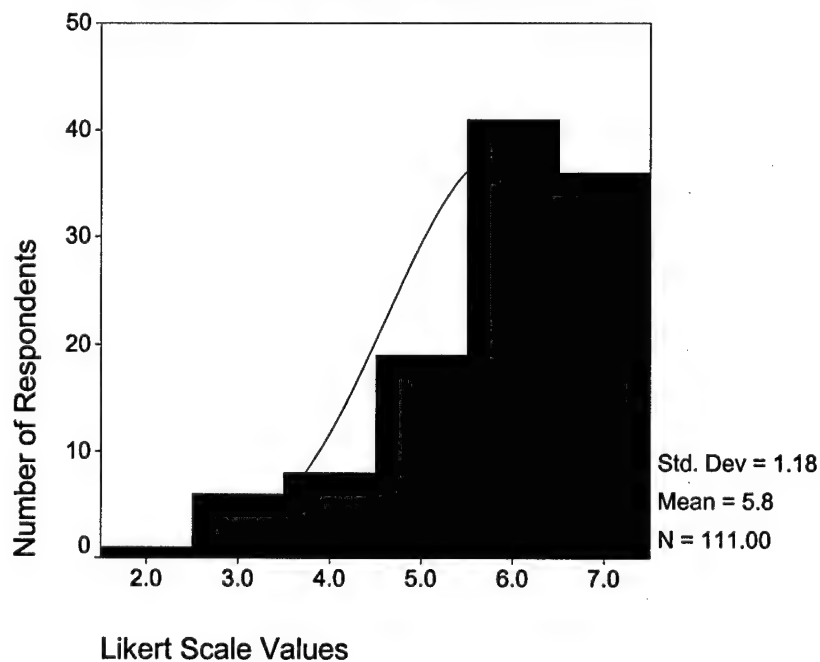
Frequencies

Statistics

PHRMCOST

N	Valid	112
	Missing	0
Mean		5.78
Std. Deviation		1.35
Percentiles	25	5.00
	50	6.00
	75	7.00

PHRMCOST

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.7	2.7	2.7
	2	2	1.8	1.8	4.5
	3	2	1.8	1.8	6.3
	4	6	5.4	5.4	11.6
	5	21	18.8	18.8	30.4
	6	41	36.6	36.6	67.0
	7	37	33.0	33.0	100.0
	Total	112	100.0	100.0	

Pharmacy Cost PMPM

Std. Dev = 1.35
Mean = 5.8
N = 112.00

Likert Scale Values
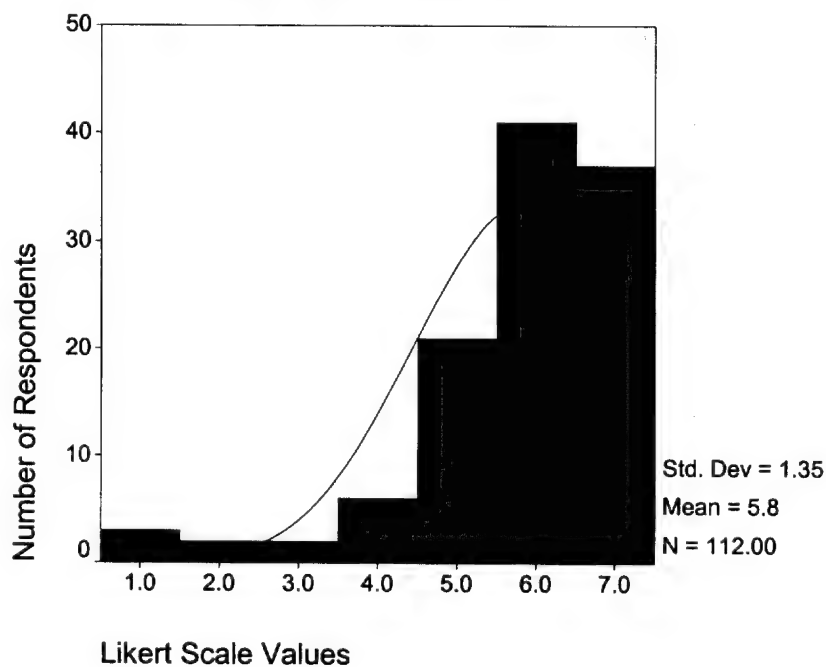
Frequencies

Statistics

SATACSPE

N	Valid	112
	Missing	0
Mean		5.70
Std. Deviation		1.19
Percentiles	25	5.00
	50	6.00
	75	7.00

SATACSPE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.9	.9	.9
	2	2	1.8	1.8	2.7
	3	2	1.8	1.8	4.5
	4	9	8.0	8.0	12.5
	5	27	24.1	24.1	36.6
	6	41	36.6	36.6	73.2
	7	30	26.8	26.8	100.0
	Total	112	100.0	100.0	

Satisfaction w/Access to Specialist

Std. Dev = 1.19
Mean = 5.7
N = 112.00

Likert Scale Values
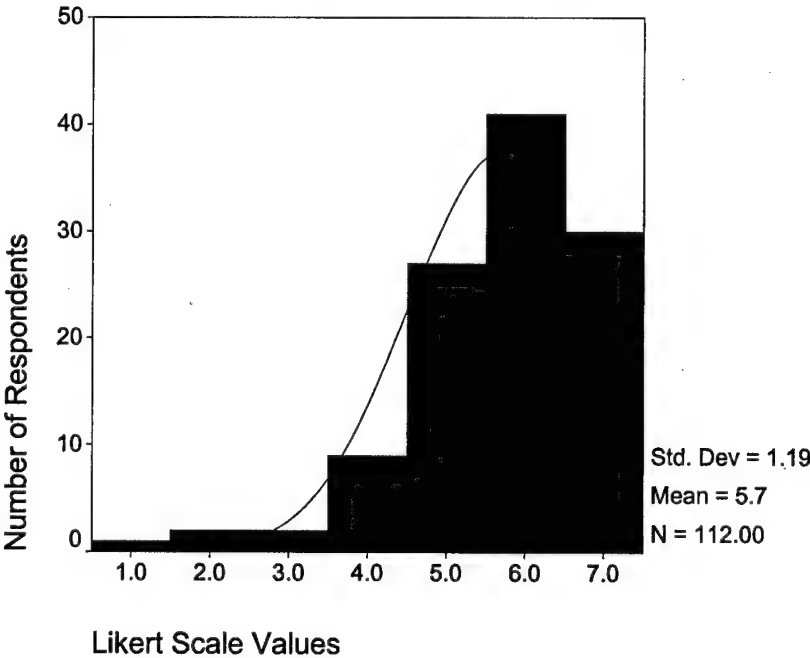
Frequencies

Statistics

DCMKTOUT

N	Valid	107
	Missing	5
Mean		5.69
Std. Deviation		1.40
Percentiles	25	5.00
	50	6.00
	75	7.00

DCMKTOUT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.7	2.8	2.8
	2	3	2.7	2.8	5.6
	3	2	1.8	1.9	7.5
	4	6	5.4	5.6	13.1
	5	21	18.8	19.6	32.7
	6	39	34.8	36.4	69.2
	7	33	29.5	30.8	100.0
	Total	107	95.5	100.0	
Missing	System	5	4.5		
Total		112	100.0		

Direct Care Market Share--Outpt

Std. Dev = 1.40
Mean = 5.7
N = 107.00

Number of Respondents

Likert Scale Values
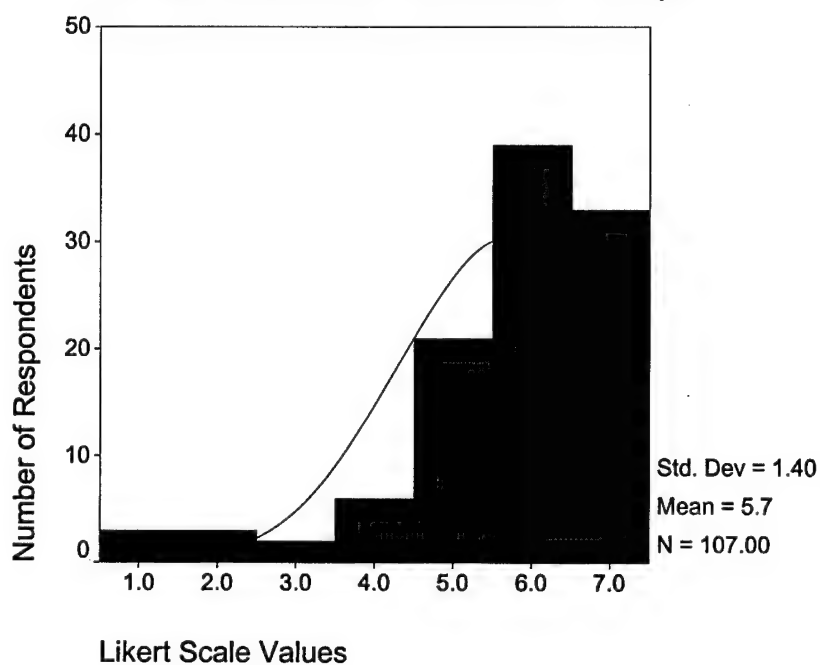
Frequencies

Statistics

WAITFAPP

N	Valid	112
	Missing	0
Mean		5.62
Std. Deviation		1.34
Percentiles	25	5.00
	50	6.00
	75	7.00

WAITFAPP

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.8	1.8	1.8
	2	1	.9	.9	2.7
	3	4	3.6	3.6	6.3
	4	15	13.4	13.4	19.6
	5	21	18.8	18.8	38.4
	6	35	31.3	31.3	69.6
	7	34	30.4	30.4	100.0
	Total	112	100.0	100.0	

Wait Time FOR Appointment

Std. Dev = 1.34
Mean = 5.6
N = 112.00

Likert Scale Values
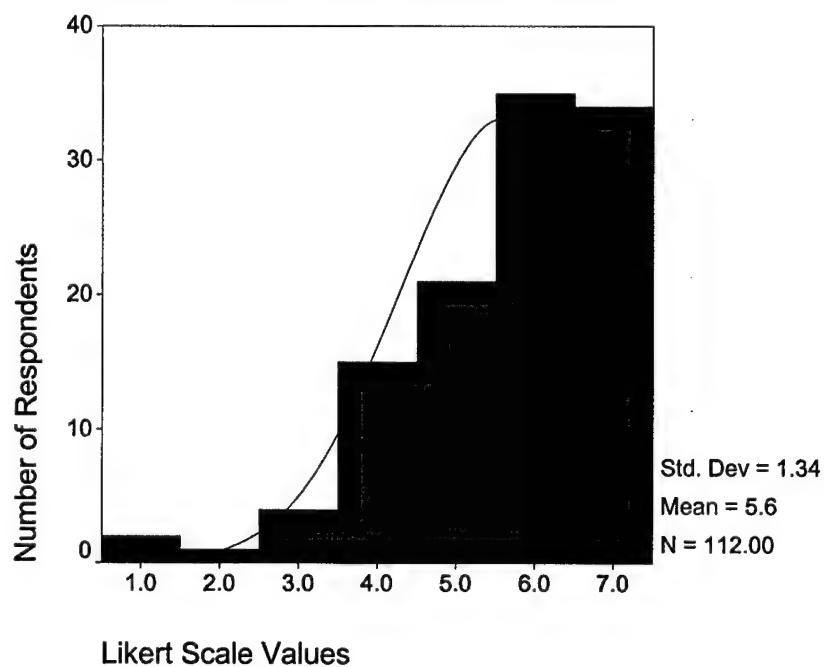
Frequencies

Statistics

ENRPCM

N	Valid	112
	Missing	0
Mean		5.58
Std. Deviation		1.36
Percentiles	25	5.00
	50	6.00
	75	7.00

ENRPCM

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.7	2.7	2.7
	2	2	1.8	1.8	4.5
	3	2	1.8	1.8	6.3
	4	12	10.7	10.7	17.0
	5	23	20.5	20.5	37.5
	6	41	36.6	36.6	74.1
	7	29	25.9	25.9	100.0
	Total	112	100.0	100.0	

% Enrollees Seen by their PCM

Std. Dev = 1.36
Mean = 5.6
N = 112.00

Likert Scale Values
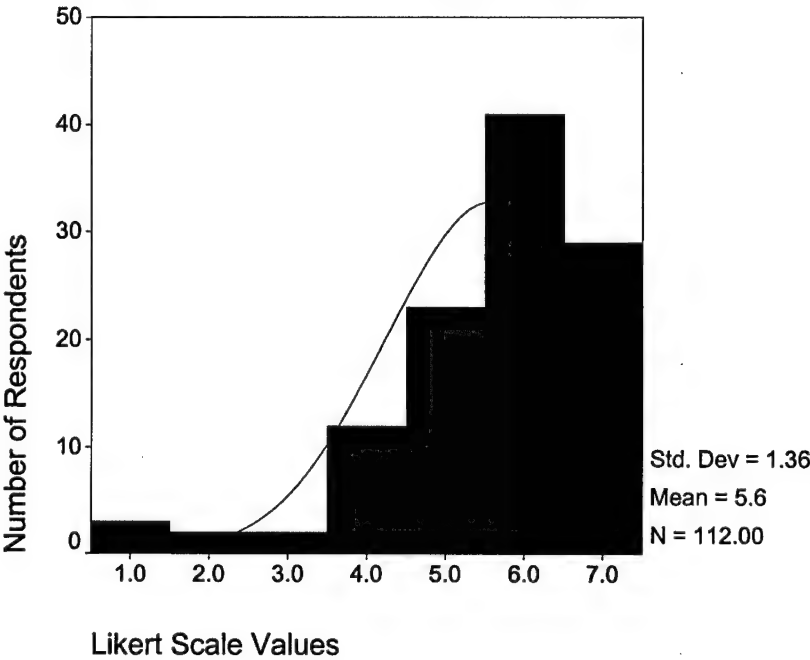
Frequencies

Statistics

WAITAAPP

N	Valid	112
	Missing	0
Mean		5.54
Std. Deviation		1.15
Percentiles	25	5.00
	50	6.00
	75	6.00

WAITAAPP

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	.9	.9	.9
	3	4	3.6	3.6	4.5
	4	14	12.5	12.5	17.0
	5	34	30.4	30.4	47.3
	6	32	28.6	28.6	75.9
	7	27	24.1	24.1	100.0
	Total	112	100.0	100.0	

Wait Time AT Appointment

Std. Dev = 1.15
Mean = 5.5
N = 112.00

Likert Scale Values
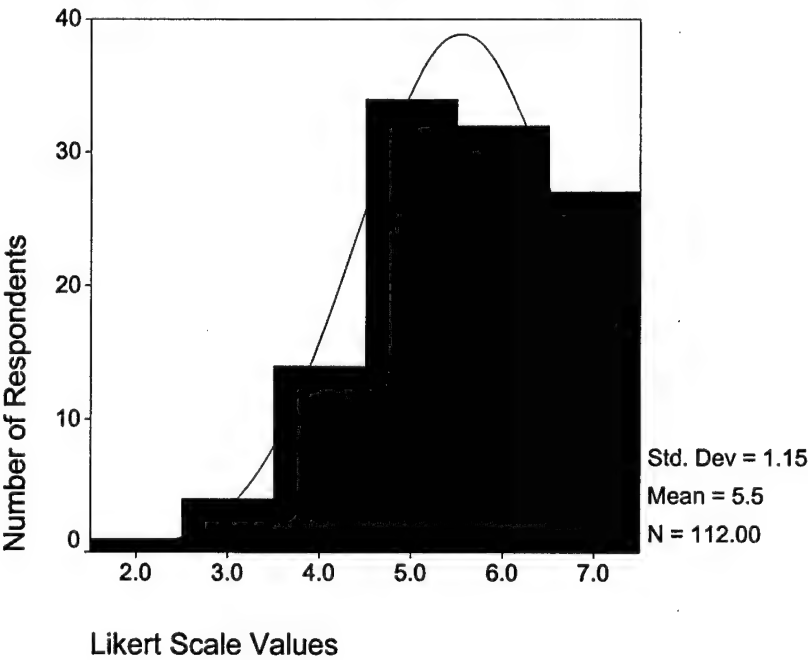
Frequencies

Statistics

VISPPROV

N	Valid	112
	Missing	0
Mean		5.53
Std. Deviation		1.24
Percentiles	25	5.00
	50	6.00
	75	6.00

VISPPROV

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	3	2.7	2.7	2.7
	3	5	4.5	4.5	7.1
	4	12	10.7	10.7	17.9
	5	28	25.0	25.0	42.9
	6	38	33.9	33.9	76.8
	7	26	23.2	23.2	100.0
	Total	112	100.0	100.0	

Visits per Provider per Day

Std. Dev = 1.24
Mean = 5.5
N = 112.00

Likert Scale Values
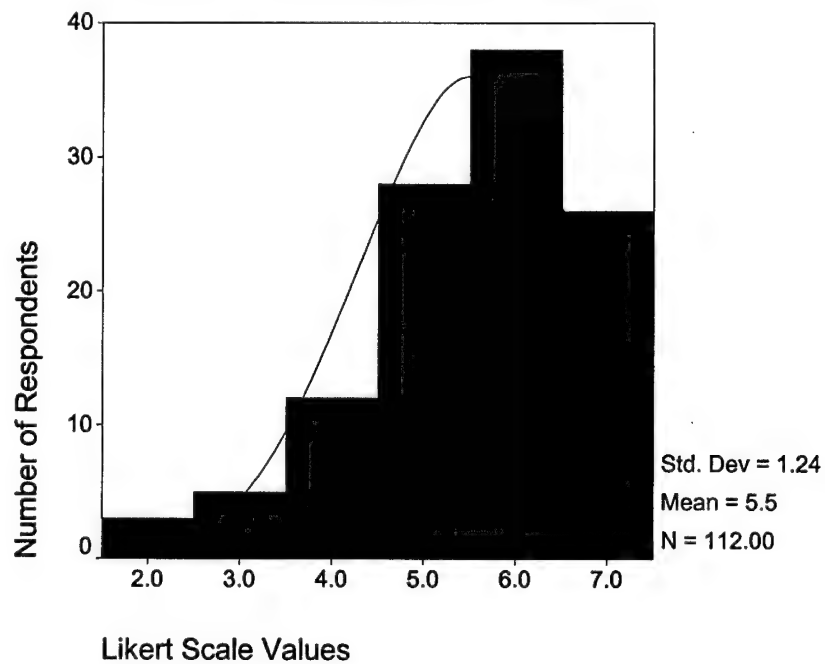
Frequencies

Statistics

COSTVIST

N	Valid	105
	Missing	7
Mean		5.52
Std. Deviation		1.39
Percentiles	25	5.00
	50	6.00
	75	7.00

COSTVIST

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.7	2.9	2.9
	3	7	6.3	6.7	9.5
	4	8	7.1	7.6	17.1
	5	26	23.2	24.8	41.9
	6	33	29.5	31.4	73.3
	7	28	25.0	26.7	100.0
	Total	105	93.8	100.0	
Missing	System	7	6.3		
Total		112	100.0		

Cost per Visit Weighted

Std. Dev = 1.39
Mean = 5.5
N = 105.00
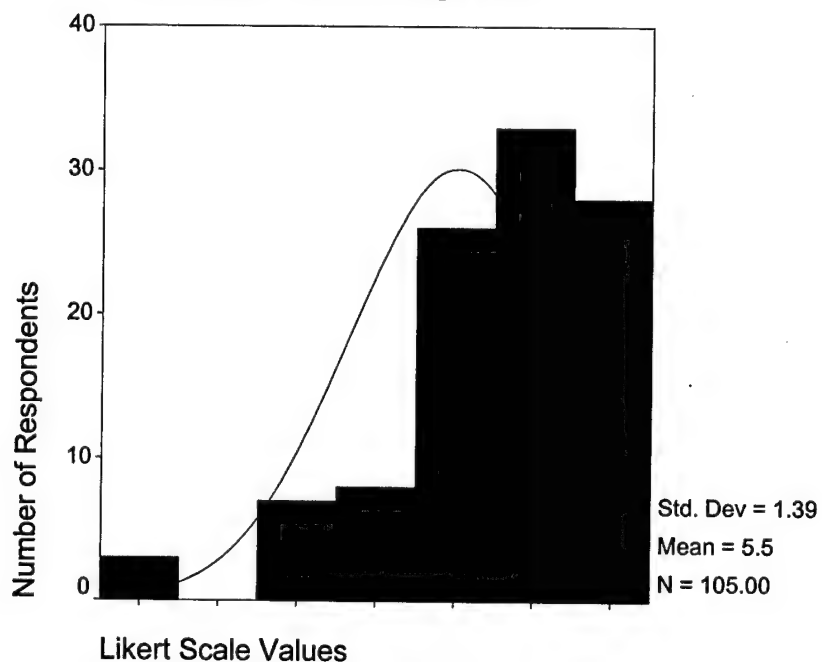
Frequencies

Statistics

DENREAD

N	Valid	109
	Missing	3
Mean		5.50
Std. Deviation		1.46
Percentiles	25	5.00
	50	6.00
	75	7.00

DENREAD

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.8	1.8	1.8
	2	4	3.6	3.7	5.5
	3	4	3.6	3.7	9.2
	4	15	13.4	13.8	22.9
	5	17	15.2	15.6	38.5
	6	36	32.1	33.0	71.6
	7	31	27.7	28.4	100.0
	Total	109	97.3	100.0	
Missing	System	3	2.7		
Total		112	100.0		

Dental Readiness

Std. Dev = 1.46
Mean = 5.5
N = 109.00

Likert Scale Values
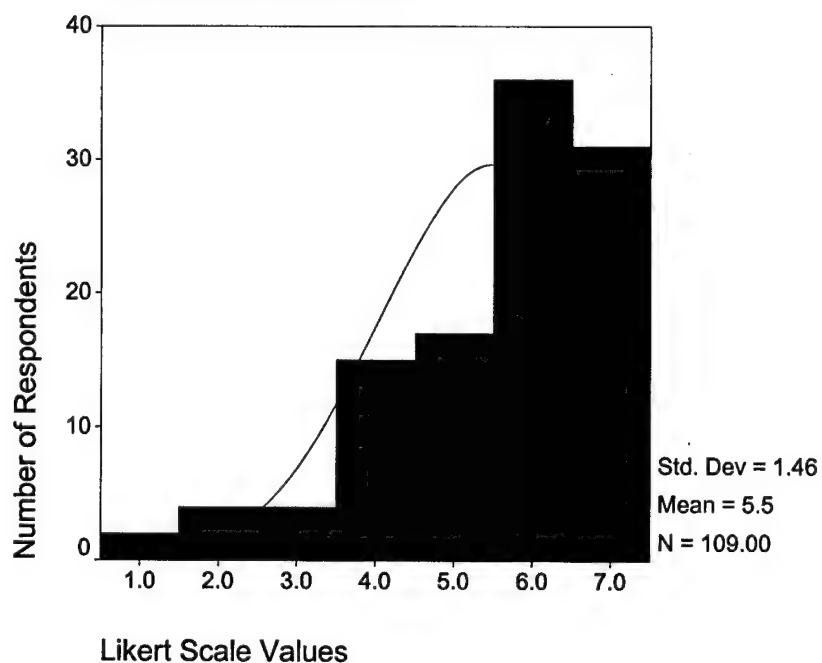
Frequencies

Statistics

PROVCERT

N	Valid	112
	Missing	0
Mean		5.41
Std. Deviation		1.59
Percentiles	25	5.00
	50	6.00
	75	7.00

PROVCERT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.7	2.7	2.7
	2	4	3.6	3.6	6.3
	3	8	7.1	7.1	13.4
	4	12	10.7	10.7	24.1
	5	23	20.5	20.5	44.6
	6	26	23.2	23.2	67.9
	7	36	32.1	32.1	100.0
	Total	112	100.0	100.0	

% Providers Med Readiness Trained and Certified

Std. Dev = 1.59
Mean = 5.4
N = 112.00

Likert Scale Values
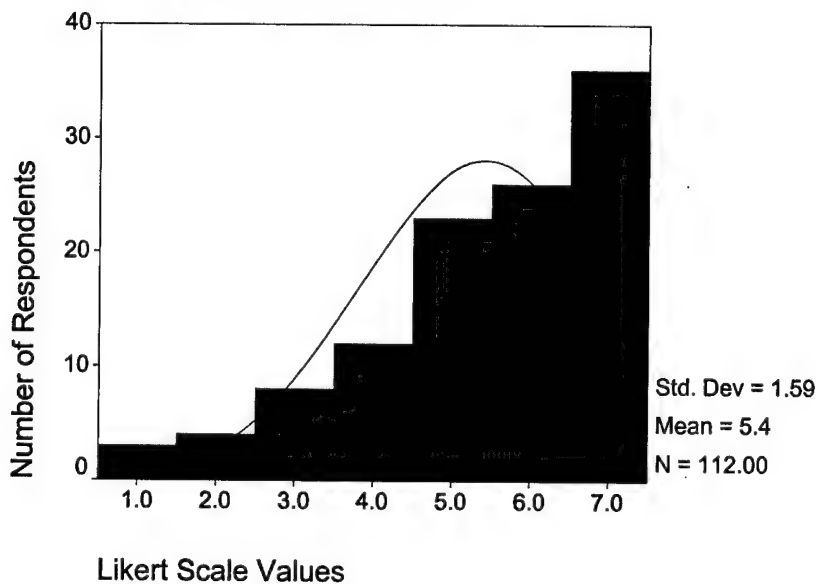
Frequencies

Statistics

COSTBDDY

N	Valid	110
	Missing	2
Mean		5.39
Std. Deviation		1.38
Percentiles	25	5.00
	50	6.00
	75	6.00

COSTBDDY

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.8	1.8	1.8
	2	3	2.7	2.7	4.5
	3	6	5.4	5.5	10.0
	4	13	11.6	11.8	21.8
	5	23	20.5	20.9	42.7
	6	41	36.6	37.3	80.0
	7	22	19.6	20.0	100.0
	Total	110	98.2	100.0	
Missing	System	2	1.8		
Total		112	100.0		

Cost per Bed Day

Std. Dev = 1.38
Mean = 5.4
N = 110.00

Likert Scale Values
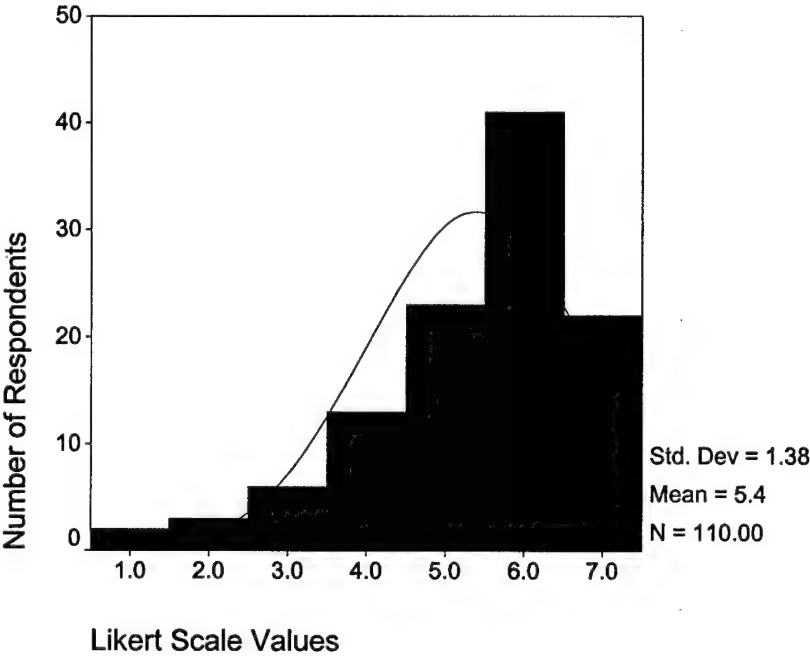
Frequencies

Statistics

PREVADM

N	Valid	109
	Missing	3
Mean		5.35
Std. Deviation		1.45
Percentiles	25	5.00
	50	6.00
	75	6.00

PREVADM

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.8	1.8	1.8
	2	4	3.6	3.7	5.5
	3	7	6.3	6.4	11.9
	4	13	11.6	11.9	23.9
	5	21	18.8	19.3	43.1
	6	39	34.8	35.8	78.9
	7	23	20.5	21.1	100.0
	Total	109	97.3	100.0	
Missing	System	3	2.7		
Total		112	100.0		

Preventable Admission Rates for Prime Enrollees

Std. Dev = 1.45
Mean = 5.3
N = 109.00

Likert Scale Values
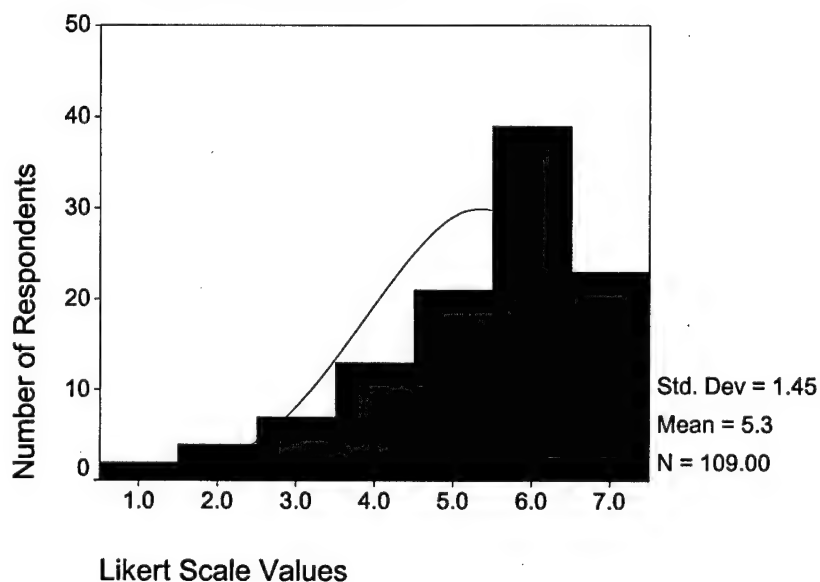
Frequencies

Statistics

COSTRWP

N	Valid	98
	Missing	14
Mean		5.34
Std. Deviation		1.47
Percentiles	25	4.75
	50	6.00
	75	6.00

COSTRWP

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.7	3.1	3.1
	2	2	1.8	2.0	5.1
	3	6	5.4	6.1	11.2
	4	13	11.6	13.3	24.5
	5	19	17.0	19.4	43.9
	6	34	30.4	34.7	78.6
	7	21	18.8	21.4	100.0
	Total	98	87.5	100.0	
Missing	System	14	12.5		
Total		112	100.0		

Cost per Relative Weighted Product

Std. Dev = 1.47
Mean = 5.3
N = 98.00

Likert Scale Values
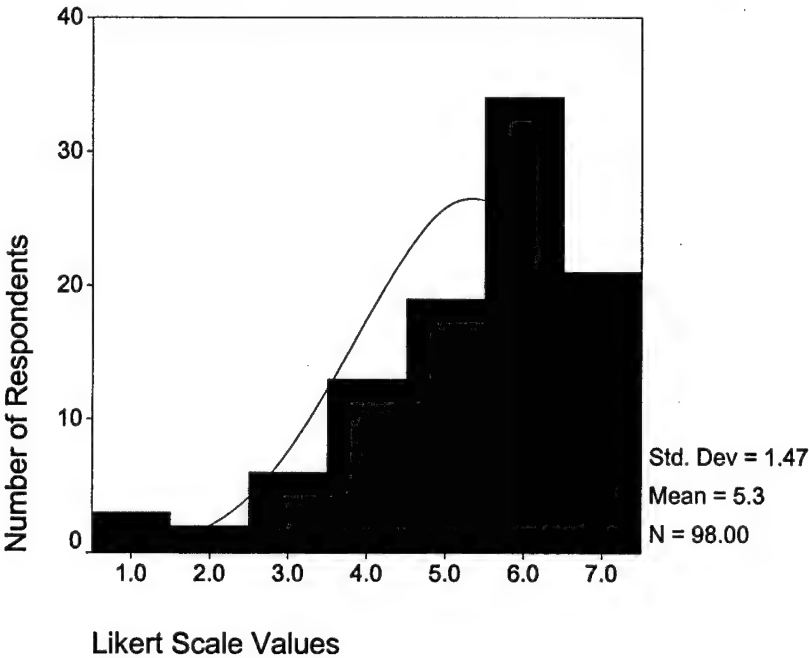
Frequencies

Statistics

CLMSPROC

N	Valid	112
	Missing	0
Mean		5.32
Std. Deviation		1.43
Percentiles	25	4.00
	50	6.00
	75	6.00

CLMSPROC

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	.9	.9	.9
	2	5	4.5	4.5	5.4
	3	6	5.4	5.4	10.7
	4	19	17.0	17.0	27.7
	5	20	17.9	17.9	45.5
	6	36	32.1	32.1	77.7
	7	25	22.3	22.3	100.0
	Total	112	100.0	100.0	

Claims Processed within 30 days

Std. Dev = 1.43
Mean = 5.3
N = 112.00
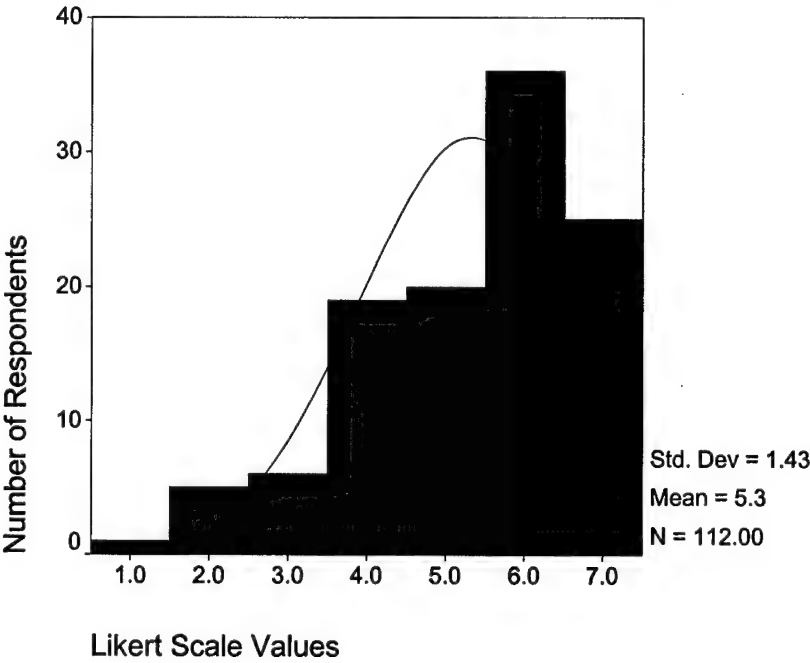
Frequencies

Statistics

VISP1000

N	Valid	103
	Missing	9
Mean		5.15
Std. Deviation		1.34
Percentiles	25	4.00
	50	5.00
	75	6.00

VISP1000

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	1.8	1.9	1.9
	2	4	3.6	3.9	5.8
	3	3	2.7	2.9	8.7
	4	18	16.1	17.5	26.2
	5	31	27.7	30.1	56.3
	6	31	27.7	30.1	86.4
	7	14	12.5	13.6	100.0
	Total	103	92.0	100.0	
Missing	System	9	8.0		
Total		112	100.0		

Visits per 1000 Weighted

Std. Dev = 1.34
Mean = 5.1
N = 103.00

Likert Scale Values
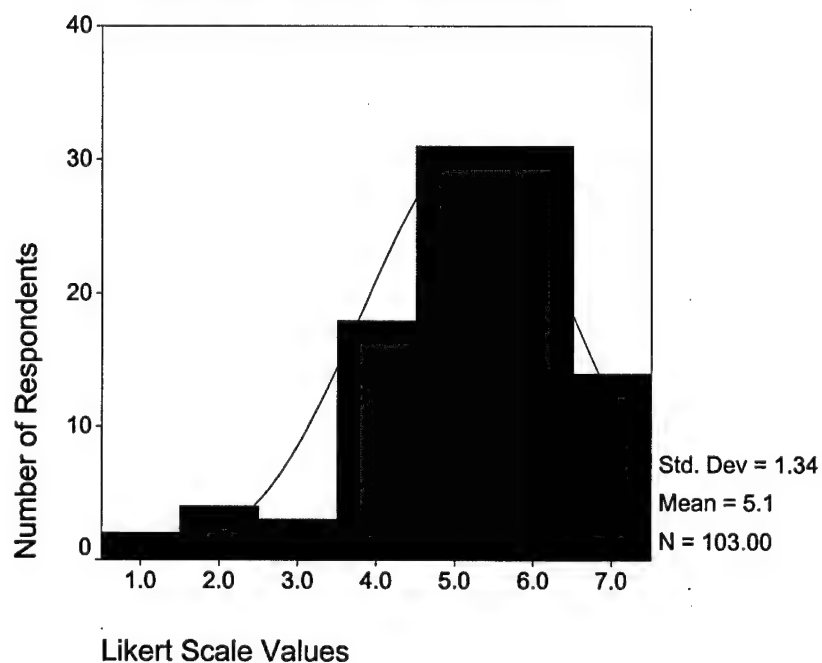
Frequencies

Statistics

DENWELL

N	Valid		109
	Missing		3
Mean			5.12
Std. Deviation			1.59
Percentiles	25		4.00
	50		5.00
	75		6.00

DENWELL

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.7	2.8	2.8
	2	8	7.1	7.3	10.1
	3	3	2.7	2.8	12.8
	4	20	17.9	18.3	31.2
	5	23	20.5	21.1	52.3
	6	29	25.9	26.6	78.9
	7	23	20.5	21.1	100.0
	Total	109	97.3	100.0	
Missing	System	3	2.7		
Total		112	100.0		

Dental Wellness

Std. Dev = 1.59
Mean = 5.1
N = 109.00

Number of Respondents

Likert Scale Values
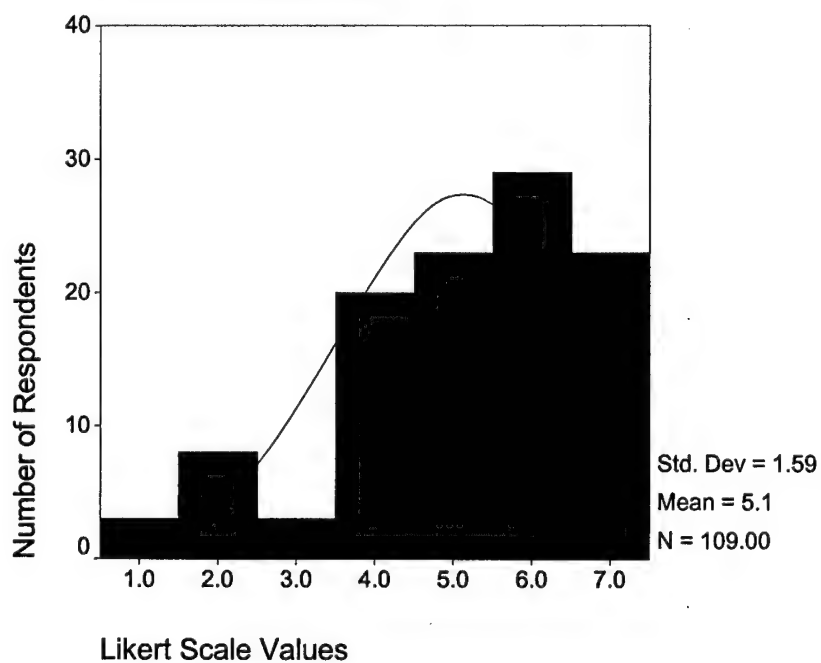
Frequencies

Statistics

DCMKTINP

N	Valid	105
	Missing	7
Mean		5.08
Std. Deviation		1.66
Percentiles	25	4.00
	50	6.00
	75	6.00

DCMKTINP

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	6	5.4	5.7	5.7
	2	5	4.5	4.8	10.5
	3	6	5.4	5.7	16.2
	4	14	12.5	13.3	29.5
	5	19	17.0	18.1	47.6
	6	37	33.0	35.2	82.9
	7	18	16.1	17.1	100.0
	Total	105	93.8	100.0	
Missing	System	7	6.3		
Total		112	100.0		

Direct Care Market Share--Inpt

Std. Dev = 1.66
Mean = 5.1
N = 105.00

Likert Scale Values
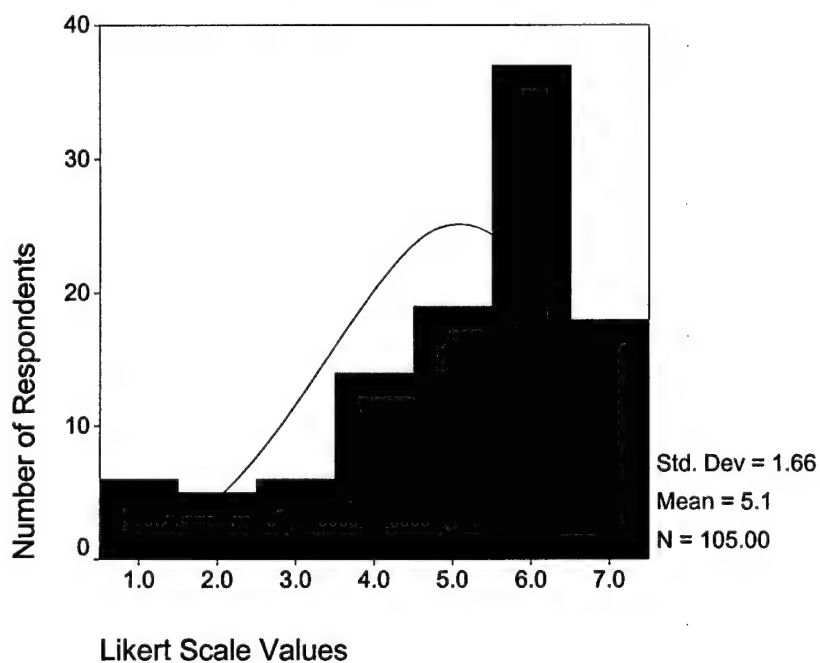
Frequencies

Statistics

MCSCALLS

N	Valid	106
	Missing	6
Mean		5.05
Std. Deviation		1.41
Percentiles	25	4.00
	50	5.00
	75	6.00

MCSCALLS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.7	2.8	2.8
	2	3	2.7	2.8	5.7
	3	6	5.4	5.7	11.3
	4	21	18.8	19.8	31.1
	5	29	25.9	27.4	58.5
	6	29	25.9	27.4	85.8
	7	15	13.4	14.2	100.0
	Total	106	94.6	100.0	
Missing	System	6	5.4		
Total		112	100.0		

MCSC % Calls Answered within 2 min

Std. Dev = 1.41
Mean = 5.0
N = 106.00

Likert Scale Values
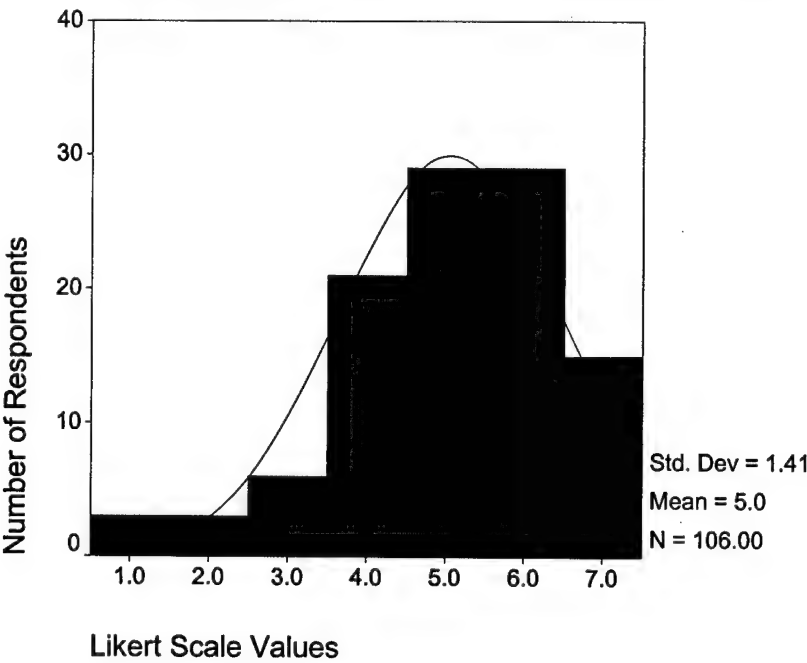
Frequencies

Statistics

LABCOST

N	Valid	107
	Missing	5
Mean		5.02
Std. Deviation		1.59
Percentiles	25	4.00
	50	5.00
	75	6.00

LABCOST

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	3.6	3.7	3.7
	2	6	5.4	5.6	9.3
	3	8	7.1	7.5	16.8
	4	13	11.6	12.1	29.0
	5	31	27.7	29.0	57.9
	6	25	22.3	23.4	81.3
	7	20	17.9	18.7	100.0
	Total	107	95.5	100.0	
Missing	System	5	4.5		
Total		112	100.0		

Lab Costs PMPM

Std. Dev = 1.59
Mean = 5.0
N = 107.00

Likert Scale Values
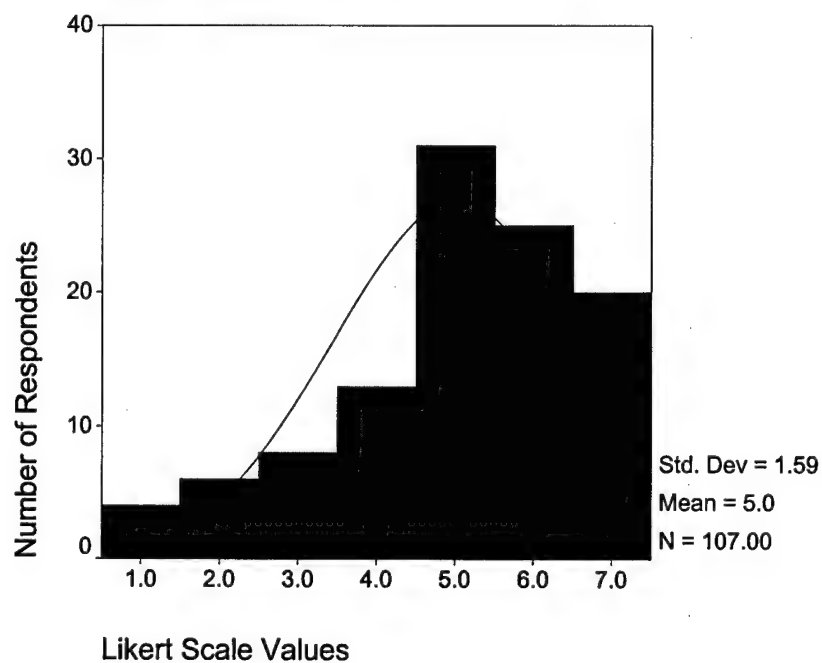
Frequencies

Statistics

RADCOST

N	Valid	111
	Missing	1
Mean		4.96
Std. Deviation		1.62
Percentiles	25	4.00
	50	5.00
	75	6.00

RADCOST

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	3.6	3.6	3.6
	2	7	6.3	6.3	9.9
	3	9	8.0	8.1	18.0
	4	18	16.1	16.2	34.2
	5	24	21.4	21.6	55.9
	6	29	25.9	26.1	82.0
	7	20	17.9	18.0	100.0
	Total	111	99.1	100.0	
Missing	System	1	.9		
Total		112	100.0		

Radiology Cost PMPM

Std. Dev = 1.62
Mean = 5.0
N = 111.00

Likert Scale Values
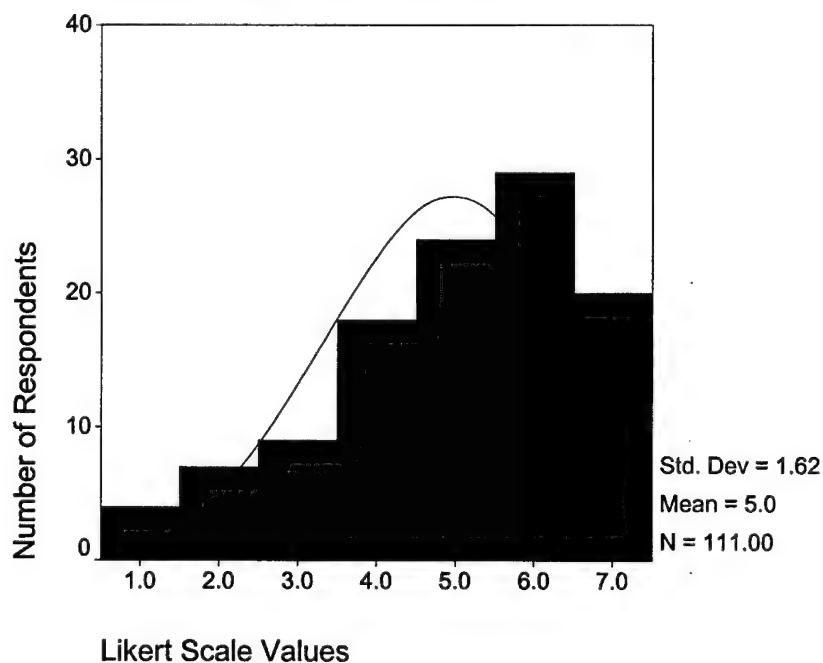
Frequencies

Statistics

SADR

N	Valid	91
	Missing	21
Mean		4.93
Std. Deviation		1.53
Percentiles	25	4.00
	50	5.00
	75	6.00

SADR

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	3.6	4.4	4.4
	2	4	3.6	4.4	8.8
	3	4	3.6	4.4	13.2
	4	19	17.0	20.9	34.1
	5	24	21.4	26.4	60.4
	6	23	20.5	25.3	85.7
	7	13	11.6	14.3	100.0
	Total	91	81.3	100.0	
Missing	System	21	18.8		
Total		112	100.0		

SADR Completion Rate

Std. Dev = 1.53
Mean = 4.9
N = 91.00
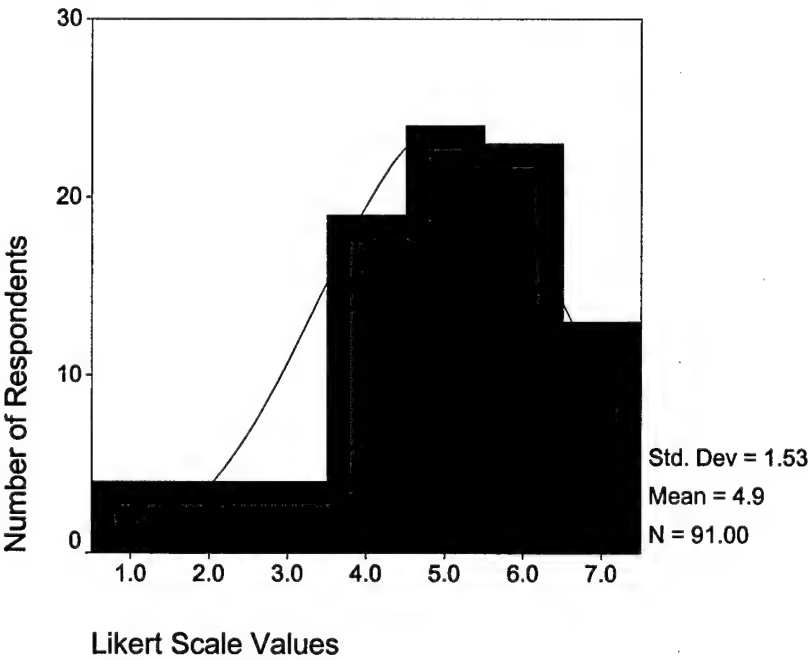
Frequencies

Statistics

SIDR

N	Valid	90
	Missing	22
Mean		4.91
Std. Deviation		1.56
Percentiles	25	4.00
	50	5.00
	75	6.00

SIDR

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	5	4.5	5.6	5.6
	2	2	1.8	2.2	7.8
	3	5	4.5	5.6	13.3
	4	21	18.8	23.3	36.7
	5	22	19.6	24.4	61.1
	6	21	18.8	23.3	84.4
	7	14	12.5	15.6	100.0
	Total	90	80.4	100.0	
Missing	System	22	19.6		
Total		112	100.0		

SIDR Completion Rate

Std. Dev = 1.56
Mean = 4.9
N = 90.00

Number of Respondents

Likert Scale Values
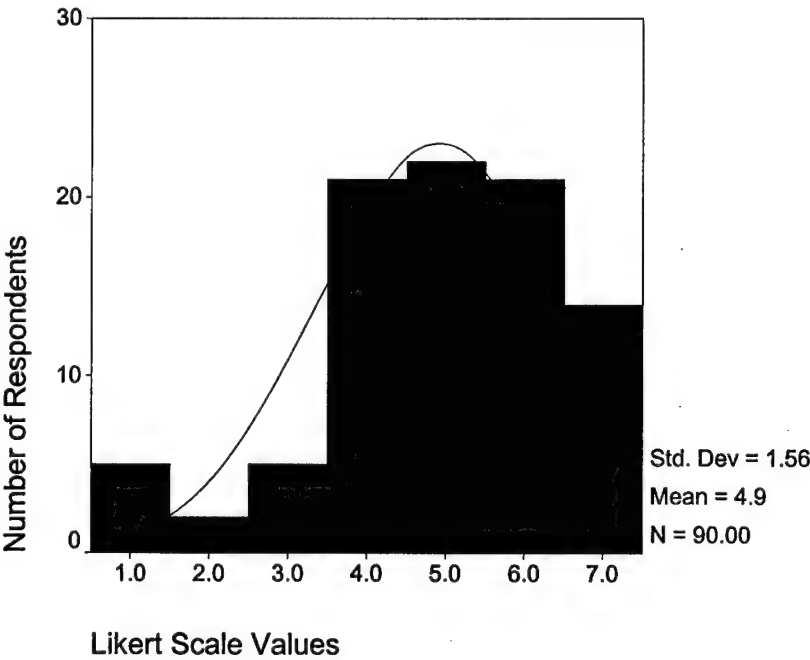
Frequencies

Statistics

CAPCOSTS

N	Valid	104
	Missing	8
Mean		4.88
Std. Deviation		1.74
Percentiles	25	4.00
	50	5.00
	75	6.00

CAPCOSTS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	7	6.3	6.7	6.7
	2	8	7.1	7.7	14.4
	3	3	2.7	2.9	17.3
	4	18	16.1	17.3	34.6
	5	21	18.8	20.2	54.8
	6	30	26.8	28.8	83.7
	7	17	15.2	16.3	100.0
	Total	104	92.9	100.0	
Missing	System	8	7.1		
Total		112	100.0		

Capital Costs PMPM

Std. Dev = 1.74
Mean = 4.9
N = 104.00

Likert Scale Values
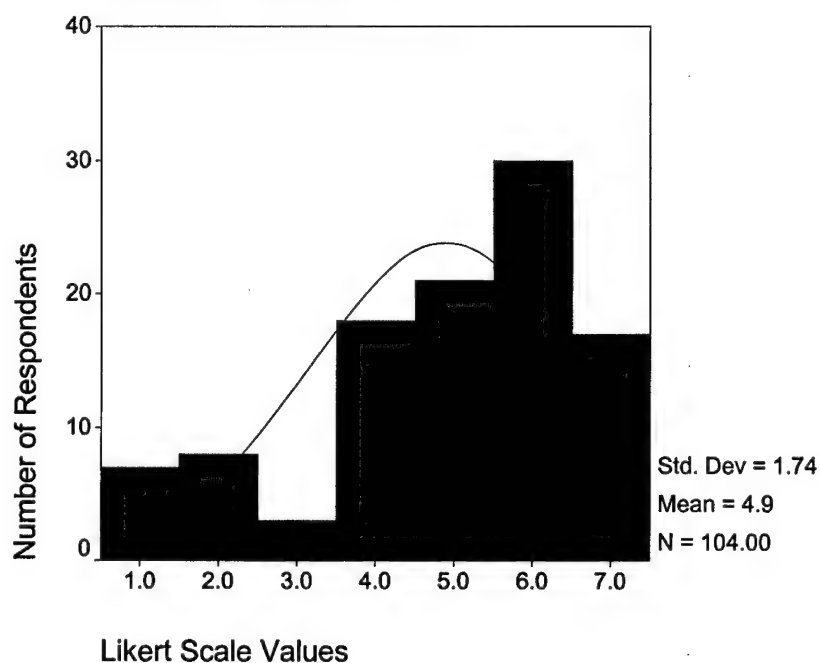
Frequencies

Statistics

BEDDAY

N	Valid	111
	Missing	1
Mean		4.86
Std. Deviation		1.68
Percentiles	25	4.00
	50	5.00
	75	6.00

BEDDAY

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	7	6.3	6.3	6.3
	2	5	4.5	4.5	10.8
	3	10	8.9	9.0	19.8
	4	19	17.0	17.1	36.9
	5	20	17.9	18.0	55.0
	6	34	30.4	30.6	85.6
	7	16	14.3	14.4	100.0
	Total	111	99.1	100.0	
Missing	System	1	.9		
Total		112	100.0		

Bed Days per 1000 Enrollees

Std. Dev = 1.68
Mean = 4.9
N = 111.00

Number of Respondents

Likert Scale Values
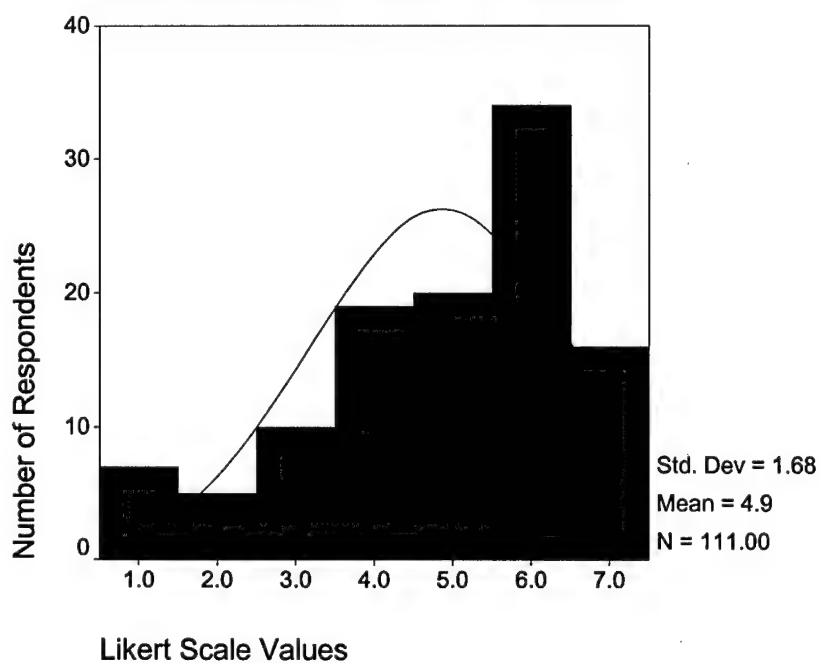
Frequencies

Statistics

MCSPHONE

N	Valid	103
	Missing	9
Mean		4.83
Std. Deviation		1.50
Percentiles	25	4.00
	50	5.00
	75	6.00

MCSPHONE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	2.7	2.9	2.9
	2	7	6.3	6.8	9.7
	3	7	6.3	6.8	16.5
	4	22	19.6	21.4	37.9
	5	24	21.4	23.3	61.2
	6	29	25.9	28.2	89.3
	7	11	9.8	10.7	100.0
	Total	103	92.0	100.0	
Missing	System	9	8.0		
Total		112	100.0		

MCSC Phones -- % of all lines busy

Std. Dev = 1.50
Mean = 4.8
N = 103.00

Likert Scale Values
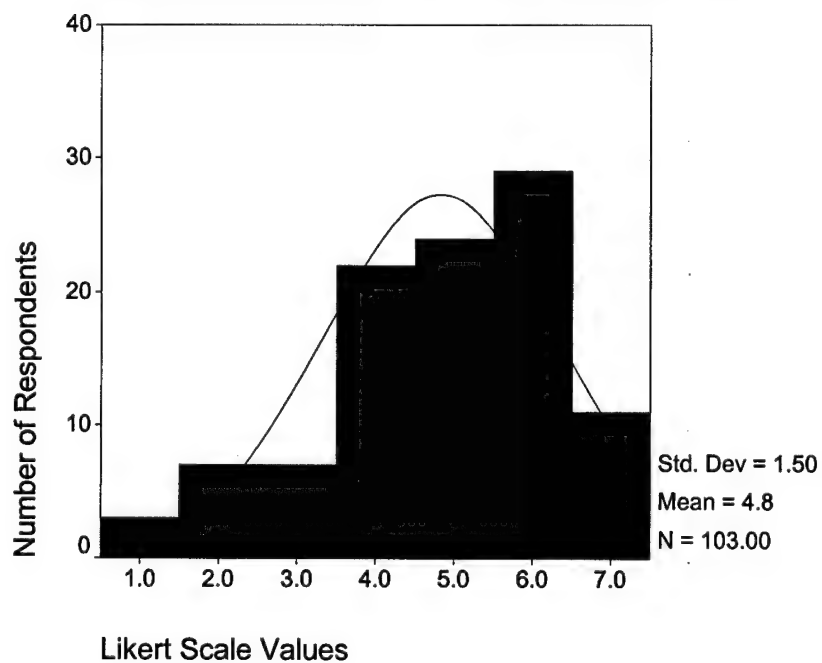
Frequencies

Statistics

DISPENRO

N	Valid	107
	Missing	5
Mean		4.78
Std. Deviation		1.53
Percentiles	25	4.00
	50	5.00
	75	6.00

DISPENRO

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	3.6	3.7	3.7
	2	4	3.6	3.7	7.5
	3	13	11.6	12.1	19.6
	4	23	20.5	21.5	41.1
	5	22	19.6	20.6	61.7
	6	29	25.9	27.1	88.8
	7	12	10.7	11.2	100.0
	Total	107	95.5	100.0	
Missing	System	5	4.5		
Total		112	100.0		

Dispositions/1000 Enrollees

Std. Dev = 1.53
Mean = 4.8
N = 107.00

Likert Scale Values
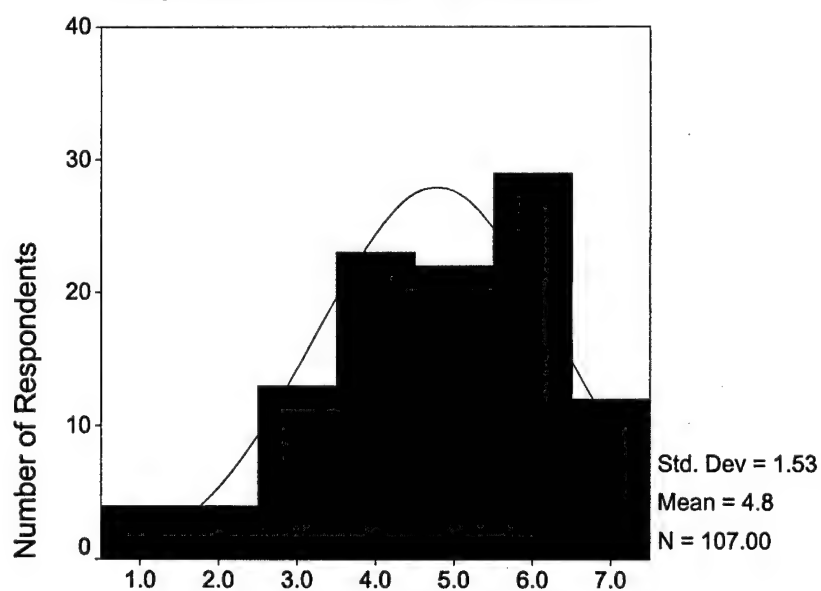
Frequencies

Statistics

NURSEFTE

N	Valid	108
	Missing	4
Mean		4.74
Std. Deviation		1.57
Percentiles	25	4.00
	50	5.00
	75	6.00

NURSEFTE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	6	5.4	5.6	5.6
	2	5	4.5	4.6	10.2
	3	7	6.3	6.5	16.7
	4	24	21.4	22.2	38.9
	5	32	28.6	29.6	68.5
	6	19	17.0	17.6	86.1
	7	15	13.4	13.9	100.0
	Total	108	96.4	100.0	
Missing	System	4	3.6		
Total		112	100.0		

Nurse FTE/Weighted Bed Day

Std. Dev = 1.57
Mean = 4.7
N = 108.00

Likert Scale Values
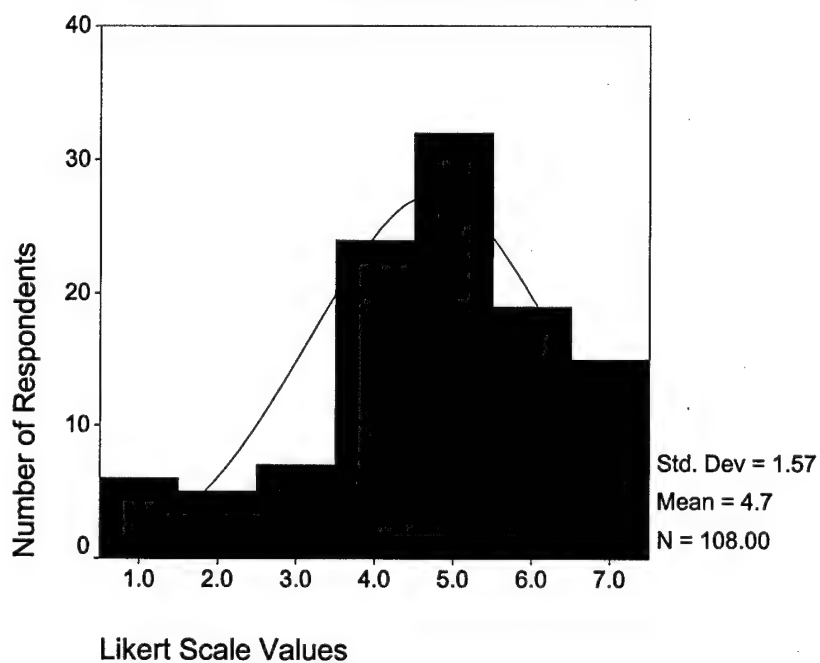
Frequencies

Statistics

BENGRIEV

N	Valid	110
	Missing	2
Mean		4.70
Std. Deviation		1.67
Percentiles	25	3.00
	50	5.00
	75	6.00

BENGRIEV

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	3.6	3.6	3.6
	2	11	9.8	10.0	13.6
	3	13	11.6	11.8	25.5
	4	14	12.5	12.7	38.2
	5	27	24.1	24.5	62.7
	6	26	23.2	23.6	86.4
	7	15	13.4	13.6	100.0
	Total	110	98.2	100.0	
Missing	System	2	1.8		
Total		112	100.0		

Beneficiary Grievances/1000 Enrollees

Std. Dev = 1.67
Mean = 4.7
N = 110.00

Likert Scale Values
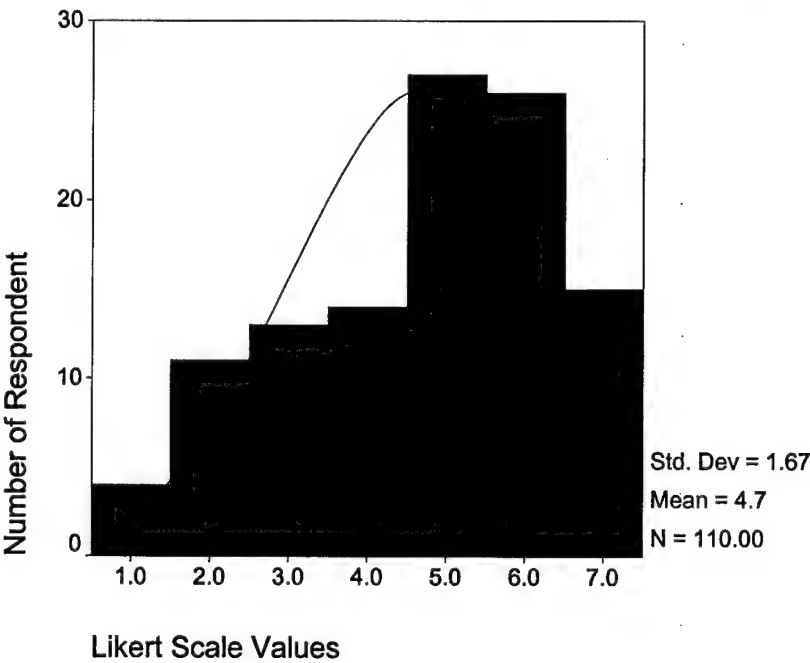
Frequencies

Statistics

RWPENROL

N	Valid	82
	Missing	30
Mean		4.68
Std. Deviation		1.59
Percentiles	25	4.00
	50	5.00
	75	6.00

RWPENROL

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	5	4.5	6.1	6.1
	2	6	5.4	7.3	13.4
	3	3	2.7	3.7	17.1
	4	15	13.4	18.3	35.4
	5	29	25.9	35.4	70.7
	6	15	13.4	18.3	89.0
	7	9	8.0	11.0	100.0
	Total	82	73.2	100.0	
Missing	System	30	26.8		
Total		112	100.0		

Relative Weighted Products/1000 Enrollees

Std. Dev = 1.59
Mean = 4.7
N = 82.00

Likert Scale Values
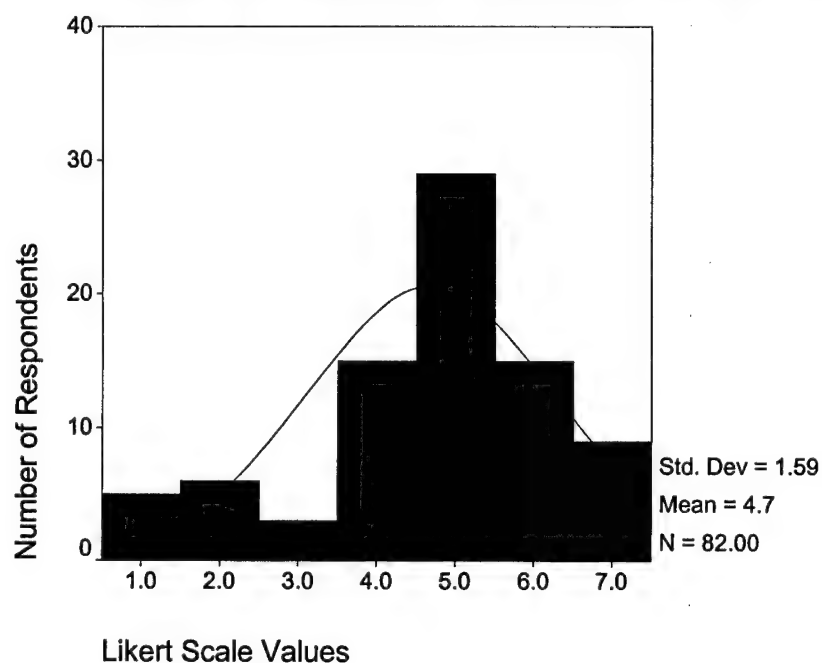
Frequencies

Statistics

HLTHSTAT

N	Valid	104
	Missing	8
Mean		4.64
Std. Deviation		1.49
Percentiles	25	4.00
	50	5.00
	75	6.00

HLTHSTAT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	3.6	3.8	3.8
	2	4	3.6	3.8	7.7
	3	15	13.4	14.4	22.1
	4	21	18.8	20.2	42.3
	5	28	25.0	26.9	69.2
	6	22	19.6	21.2	90.4
	7	10	8.9	9.6	100.0
	Total	104	92.9	100.0	
Missing	System	8	7.1		
Total		112	100.0		

Health Status

Std. Dev = 1.49
Mean = 4.6
N = 104.00

Likert Scale Values
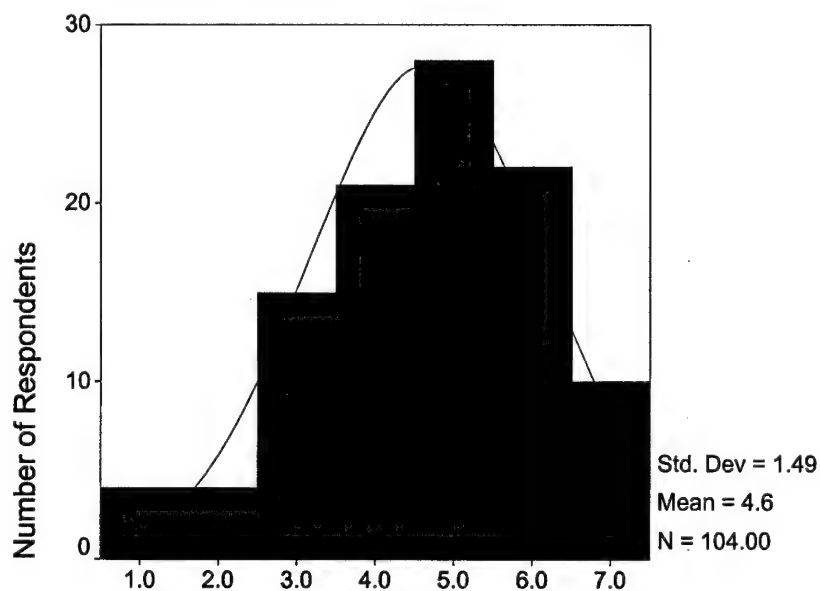
Frequencies

Statistics

MEPRS

N	Valid	111
	Missing	1
Mean		4.41
Std. Deviation		1.84
Percentiles	25	3.00
	50	5.00
	75	6.00

MEPRS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	9	8.0	8.1	8.1
	2	15	13.4	13.5	21.6
	3	6	5.4	5.4	27.0
	4	25	22.3	22.5	49.5
	5	20	17.9	18.0	67.6
	6	20	17.9	18.0	85.6
	7	16	14.3	14.4	100.0
	Total	111	99.1	100.0	
Missing	System	1	.9		
Total		112	100.0		

MEPRS Completion Rate

Std. Dev = 1.84
Mean = 4.4
N = 111.00

Number of Respondents

Likert Scale Values
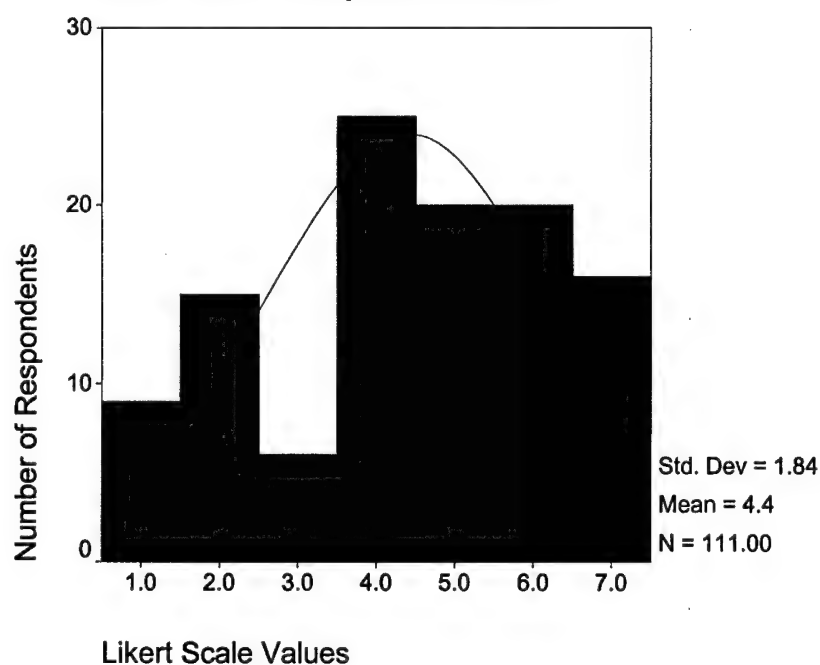
Frequencies

Statistics

PROFILES

N	Valid	106
	Missing	6
Mean		4.38
Std. Deviation		1.74
Percentiles	25	3.00
	50	4.00
	75	6.00

PROFILES

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	8	7.1	7.5	7.5
	2	7	6.3	6.6	14.2
	3	19	17.0	17.9	32.1
	4	21	18.8	19.8	51.9
	5	18	16.1	17.0	68.9
	6	20	17.9	18.9	87.7
	7	13	11.6	12.3	100.0
	Total	106	94.6	100.0	
Missing	System	6	5.4		
Total		112	100.0		

% Active Duty with Temporary Medical Profiles

Std. Dev = 1.74
Mean = 4.4
N = 106.00

Likert Scale Values
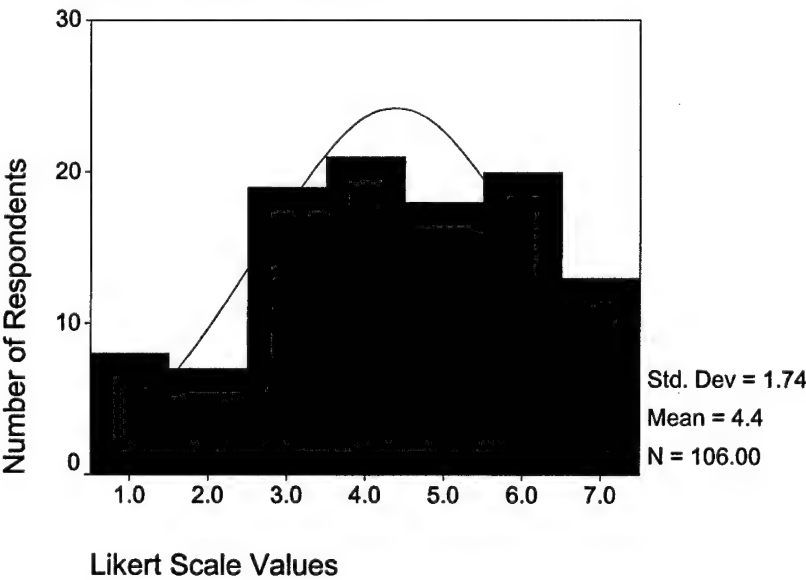
Frequencies

Statistics

BENAPPEA

N	Valid	107
	Missing	5
Mean		4.21
Std. Deviation		1.64
Percentiles	25	3.00
	50	5.00
	75	5.00

BENAPPEA

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	5	4.5	4.7	4.7
	2	19	17.0	17.8	22.4
	3	11	9.8	10.3	32.7
	4	16	14.3	15.0	47.7
	5	32	28.6	29.9	77.6
	6	18	16.1	16.8	94.4
	7	6	5.4	5.6	100.0
	Total	107	95.5	100.0	
Missing	System	5	4.5		
Total		112	100.0		

Beneficiary Appeals/1000 claims

Std. Dev = 1.64
Mean = 4.2
N = 107.00

Number of Respondents

Likert Scale Values
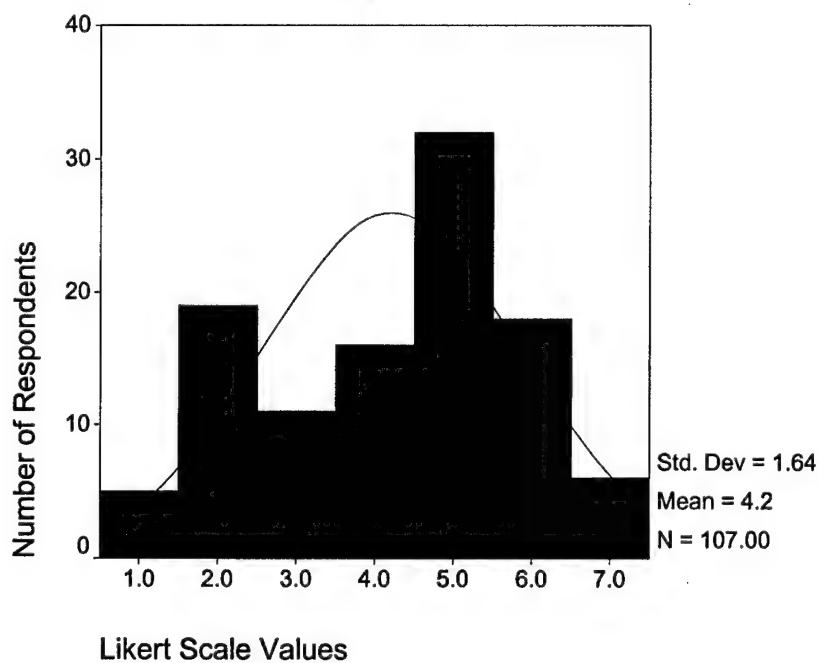
Frequencies

Statistics

JCAHOSCO

N	Valid	111
	Missing	1
Mean		4.19
Std. Deviation		1.76
Percentiles	25	3.00
	50	4.00
	75	5.00

JCAHOSCO

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	10	8.9	9.0	9.0
	2	11	9.8	9.9	18.9
	3	17	15.2	15.3	34.2
	4	22	19.6	19.8	54.1
	5	24	21.4	21.6	75.7
	6	15	13.4	13.5	89.2
	7	12	10.7	10.8	100.0
	Total	111	99.1	100.0	
Missing	System	1	.9		
Total		112	100.0		

JCAHO Grid Scores

Std. Dev = 1.76
Mean = 4.2
N = 111.00
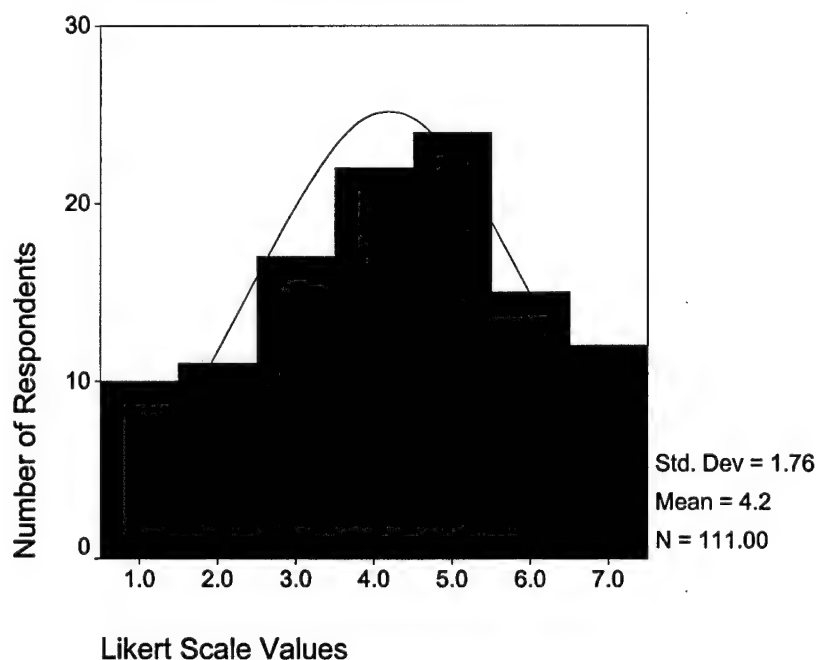
Frequencies

Statistics

MALPRCPD

N	Valid	109
	Missing	3
Mean		4.09
Std. Deviation		1.78
Percentiles	25	3.00
	50	4.00
	75	5.00

MALPRCPD

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	13	11.6	11.9	11.9
	2	11	9.8	10.1	22.0
	3	15	13.4	13.8	35.8
	4	17	15.2	15.6	51.4
	5	27	24.1	24.8	76.1
	6	19	17.0	17.4	93.6
	7	7	6.3	6.4	100.0
	Total	109	97.3	100.0	
Missing	System	3	2.7		
Total		112	100.0		

Malpractice Claims Paid/100 Physicians

Std. Dev = 1.78
Mean = 4.1
N = 109.00

Likert Scale Values
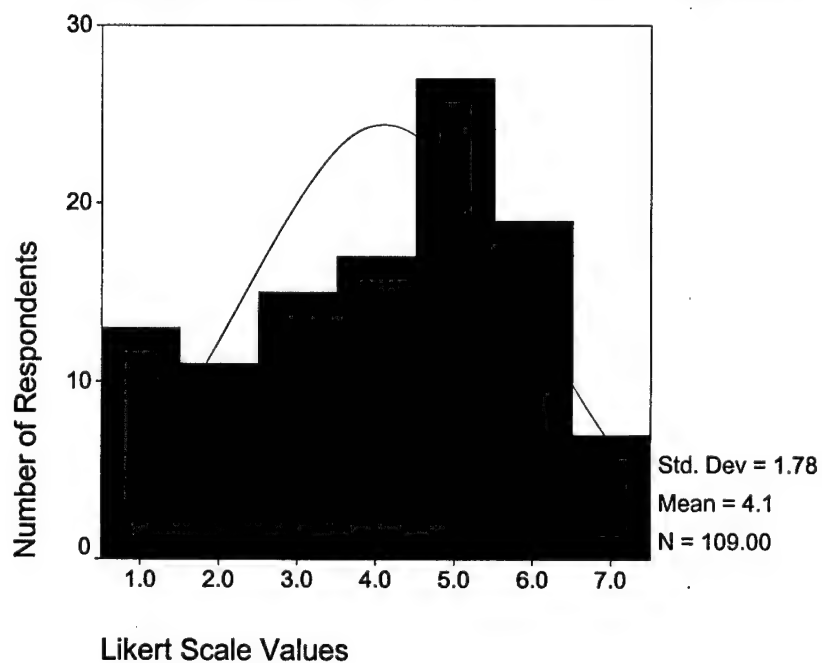
Frequencies

Statistics

MALPRCFL

N	Valid	111
	Missing	1
Mean		4.05
Std. Deviation		1.79
Percentiles	25	3.00
	50	4.00
	75	5.00

MALPRCFL

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	14	12.5	12.6	12.6
	2	11	9.8	9.9	22.5
	3	16	14.3	14.4	36.9
	4	18	16.1	16.2	53.2
	5	27	24.1	24.3	77.5
	6	17	15.2	15.3	92.8
	7	8	7.1	7.2	100.0
	Total	111	99.1	100.0	
Missing	System	1	.9		
Total		112	100.0		

Malpractice Claims Filed/100 Physicians

Std. Dev = 1.79
Mean = 4.0
N = 111.00

Likert Scale Values

Appendix Z

Respondent Recommendations

Performance Measurement Areas / Service	Utilization Rate Measures	Employee Satisfaction Measures	"Stakeholder" Satisfaction Measures	Staffing Measures	PMPM Cost Measures	Quality Measures	Health Status Changes/ Overall Health Measures	Preventive Care Measures	General Cost Measures
Army	5	0	0	4	0	0	0	0	1
Navy	3	3	1	1	1	0	1	2	0
Air Force	4	3	1	4	2	2	1	0	3
Totals	12	6	2	9	3	2	2	2	4

Performance Measurement Areas / Service	Measures Comparing Direct Care to Purchased Care	HEDIS Measures	Resource Availability Measures/ Ratios	Enrollment Measures	Billing/Claims Measures	Measures Incorporating Patient Acuity/ Case Mix Index	Readiness	Provider Certification
Army	2	1	4	0	1	2	2	0
Navy	0	0	0	1	0	0	0	2
Air Force	2	2	1	3	0	3	1	0
Totals	4	3	5	4	1	5	3	2

Performance Measurement
Areas

Appendix AA

Respondent Recommendations

Performance Measurement Areas	Utilization Rate Measures	Employee Satisfaction Measures	"Stakeholder" Satisfaction Measures	Staffing Measures	PMPM Cost Measures	Quality Measures	Health Status Changes/ Overall Health Measures	Preventive Care Measures	General Cost Measures
Lvl of Cmd									
MTF	9	6	2	8	1	1	1	1	4
TRICARE Region	3	0	0	0	1	1	0	0	0
Executive	0	0	0	1	1	0	1	1	0
Totals	**12**	**6**	**2**	**9**	**3**	**2**	**2**	**2**	**4**

Performance Measurement Areas	Measures Comparing Direct Care to Purchased Care	HEDIS Measures	Resource Availability Measures/ Ratios	Enrollment Measures	Billing/Claims Measures	Measures Incorporating Patient Acuity/ Case Mix Index	Readiness	Provider Certification
Lvl of Cmd								
MTF	2	1	4	3	0	5	2	2
TRICARE Region	2	2	0	0	0	0	0	0
Executive	0	0	1	1	1	0	1	0
Totals	**4**	**3**	**5**	**4**	**1**	**5**	**3**	**2**

Performance Measurement Areas

Top Five Recommended
Performance Measures

Appendix AB

From Part III
Questionnaire

Respondent Recommendations

The Top Five Recommended Performance Measurement Additions:

1) % Providers Satisfied with job or TRICARE

2) % Staffing of PCM support staff/positions

3) Visits per provider per day, weighted

4) % time providers at clinic, admin, other duty

5) # visits PMPM

Facility	Type	Domains	# of Measures
Johns Hopkins	Healthcare System	Clinical Quality	13
		Workplace Quality	5
		-employee satisfaction	1
		Patient Satisfaction	3
		Clinical Volume	7
		Financial Performance	10
		Revenue Recovery	12
		Cost Effectiveness	6
INOVA	Healthcare System	Clinical Quality	11
		Growth (Marketing)	6
		Service Excellence	4
		Employer of Choice	9
		Physician Partnership	5
		Community Service	5
		Financial Health	22
United Healthcare	Health Plan	Financial and Budget	8
		Product Marketability and Pricing	3
		Operating Efficiency	3
		Customer Service	3
		Care Coordination and Quality Initiatives	2
Humana	Health Plan	Quality	15
		Fiscal	12
Anthem	Health Plan	Financial	5
		Performance	11
		HEDIS	8
		Customer Service	5
		Personnel Indicators	3
Health Care Advisory Board	Research Organization -Health Plan	Financial	10
		Utilization	8
		Clinical Quality	7
		Service Quality	6
		Internal Operations	5
		Innovation	4
	-Hospital	Satisfaction	3
		-Employee Satisfaction	4
		Clinical Quality	6
		Operational	11
		Financial	9
American Association of Health Plans	Research Organization	Financial Development	5
		Enrollment Data	1
		Utilization	6
		Liquidity Tests	10
		Profitability Tests	10
		Leverage Tests	7

Total Civilian Measures:	309

MHS		Quality	10
		Cost	15
		Access	13
		Readiness	4
		Health Outcomes	2
		Special Interest	3

Decriptive Statistics
by Organization

Appendix AC

Gap Analysis

Facility		Domain Totals	Performance Measure Totals
Johns Hopkins		7	57
INOVA		7	62
United Healthcare		5	19
Humana		2	27
Anthem		5	32
Health Care Advisory Board			
	Healthplans	6	40
	Hospitals	4	33
American Association of Health Plans		6	39
MHS		6	47

Civilian Organization Domains	Number of Measures per Domain	Proportion of Domain to Total Measures
Quality		
-Clinical	54	17%
-Service	6	2%
-Workplace	5	2%
Total Quality		21%
Financial	120	39%
Operational	42	14%
Satisfaction	18	6%
-Employee	22	7%
Utilization	21	7%
Innovation	4	1%
Enrollment	4	1%
Population Health	10	3%
Community Service	3	1%
Total Measures	309	

MHS Domains			Relation to Civilian Sector
Quality	10	21%	Quality, Enrollment and Satisfaction
Access	13	28%	Satisfaction/Operational/Community Serv
Cost	15	32%	Financial and Operational
Readiness	4	9%	N/A (possibly quality/phys certification)
Health Outcomes	2	4%	Population Health/Preventive Measures
Special Interest	3	6%	N/A (Data Quality)
Total Measures	47		

General Comparison

MHS Domains	MHS Proportions	Private Sector Proportions	Civilian Organization Domains	General Variance
Quality	21%	19%	Quality/Enrollment/Satisfaction*	2%
Access	28%	12%	Operational/Satisfaction*	16%
Cost	32%	47%	Financial/Operational*	-15%
Readiness	9%	0%	N/A	9%
Health Outcomes	4%	3%	Population Health	1%
Special Interest	6%	0%	Data Quality	6%
	0%	1%	Innovation	-1%
	0%	7%	Utilization	-7%
	0%	7%	Employee Satisfaction	-7%
	0%	4%	Operational	-4%
	0%	1%	Community Service	-1%

*Note: some domains in the private sector transcended two or more domains in the MHS.
Propotions were modified to take into account those measures that applied.

Appendix AG

Gap Analysis

Common Performance Measures between each private sector organization and the MHS

	# similar measures	**% of total that are similar**	**Total Measures**
Johns Hopkins:	8	14%	57

Metrics:
1 # Outpatient Visits
2 # Patient Complaints
3 Overall Patient Satisfaction
4 Discharges per Day
5 # of Emergency Department Visits
6 Total Drug Expense
7 # Hours per Month no Monitored Beds Available
8 Days to Next Appointment

INOVA:	9	15%	62

Metrics:
1 # ofEmergency Department Visits
2 Cost per Bedday/Patient Day
3 # Visits, weighted
4 FTE/weighted Bedday
5 Overall Satisfaction with Care
6 Market Share inpatient
7 Market Share outpatient
8 Preventive Care Measures
9 Health Status measure

United Healthcare:	3	16%	19

Metrics:
1 Total Expenses PMPM
2 Membership
3 Telephone Response Rate

Humana:	4	15%	27

Metrics:
1 Preventive Care Measures
2 # Greivances per Beneficiaries
3 Pharmacy Costs PMPM
4 Cost per Member

Anthem:	6	19%	32

Metrics:
1 Expense PMPM
2 Total Membership
3 Membership per FTE per Month
4 Average Speed to Answer Phone
5 Claims Inventory
6 Preventive Care Measures

Gap Analysis

Health Care Advisory Board:

-Hospitals:	3	9%	33

Metrics:
1   # Patient Complaints
2   Emergency Department Visits
3   Dispositions per 1000

-Plans:	8	20%	40

Metrics:
1   Beds Occupied per 1000
2   # of Emergency Department Visits
3   # Enrolled
4   Pharmacy Expenses PMPM
5   Outpatient visits PTM
6   Readmission Rates
7   Physician encounters PMPM
8   # Beneficiary Grievances

American Association of Health Plans:

-HMOs:	3	9%	33

Metrics:
1   Enrollment
2   Claims Processed
3   Total PMPM Expense